

07- LA-210 PM 39.8/41.9
40.50.201.335
1851 - 0700021033K
(07 - 28730K)
August 2011

PROJECT STUDY REPORT

To

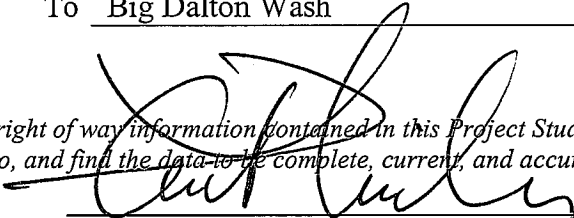
Request for Programming in the 2012 SHOPP

On Route 210

From Azusa Avenue

To Big Dalton Wash

I have reviewed the right of way information contained in this Project Study Report and the R/W Data Sheet attached hereto, and find the data to be complete, current, and accurate:



Andrew P. Nierenberg - DISTRICT DIVISION CHIEF - RIGHT OF WAY

APPROVAL RECOMMENDED:



FOR DENNIS SNYDER, PROJECT MANAGER

APPROVED:



MICHAEL MILES, DISTRICT DIRECTOR

8/31/11

DATE

August 2011



07- LA-210 PM 39.8/41.9

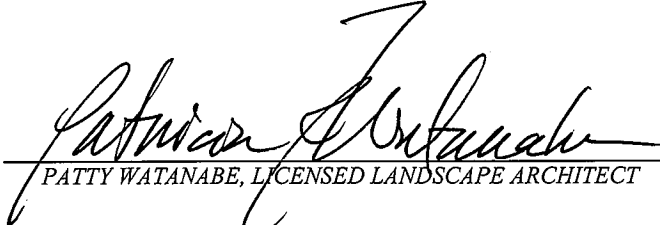
40.50.201.335

1851 - 0700021033K

(07 - 28730K)

August 2011

This Project Study Report has been prepared under the direction of the following licensed Landscape Architect. The licensed Landscape Architect attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.


PATTY WATANABE, LICENSED LANDSCAPE ARCHITECT


DATE



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1. INTRODUCTION

The proposed project is EFIS #0700021033 (EA 28730K) on Route 210 from Azusa Avenue to Big Dalton Wash.

The project presented in this PSR will provide vegetation to stabilize the soil surface, and control erosion to stop sedimentation at the source, rather than polluting the receiving waters. As confirmed in the Soil Resource Evaluation (SRE) project (RTA # 43A0073, Task order 20) prepared for Caltrans in 2005, shallow slope failures (< 1 foot deep) can be stabilized by root and soil development, providing lateral drainage with strength to hold soil. Successful revegetation will include remediation of soils and irrigation. Erodable areas where plants cannot be maintained will be covered with a paving material.

District staff will work to get the maximum credit and efforts will be made if these source control projects can be approved as Annual Elements, prior to achieving PAED.

See the cost estimate for specific work items included in this project.

Project Limits	07-LA-210 PM 39.8/41.9
Number of Alternatives per EA:	2
Alternative Recommended for Programming:	2
Programmed or Proposed Capital Construction Costs	\$2,000,000
Programmed or Proposal Capital Right of Way Costs:	\$ 0
Funding Source:	SHOPP
Type of Facility (conventional, expressway, freeway):	Freeway
Number of Structures:	None
Anticipated Environmental Determination/Document	Categorical Exemption
Legal Description	In Los Angeles County in the cities of Azusa and Glendale from and including Azusa Avenue to Big Dalton Wash
Project Category	5

A project report will serve as approval of the "selected" alternative.

2. BACKGROUND

The facility is 2:1 at some part of the freeway and gradually flatter freeway in Azusa and Glendale in Los Angeles County. The off pavement area is partly landscaped on moderate slopes ranging from flat to 2:1 at overcrossings. Vegetation holding the soil surface in place has been rapidly deteriorating. Dry and drought conditions in the last 2 years have contributed to the loss of vegetation. These sites were identified by Maintenance personnel as sites with

recurring erosion.

The San Gabriel River and Impaired Tributaries Metals and Selenium TMDL is anticipated to become effective in the near future. Caltrans will be working with groups of Responsible Agencies to jointly comply with the TMDL. Targeted pollutants are copper, lead, zinc and selenium. Project Engineer shall consider treatment controls for the project and consult with the District NPDES Storm Water Coordinator.

The proposed project would focus on prevention of erosion while allowing storm water to infiltrate, thereby containing some pollutants on site.

3. PURPOSE AND NEED STATEMENT

Need:

The Statewide National Pollution Discharge Elimination System (NPDES) Permit (Order No 99-06-DWQ) requires Caltrans to maximize erosion control and soil stabilization. Section IIa requires identifying road segments with slopes that are prone to erosion and discharge of sediment and stabilize these slopes to the extent possible. Section IIb requires enhancement of the use of appropriate vegetation throughout Caltrans rights-of-way for the purpose for preventing erosion and removing pollutants in storm water and non-storm water runoff.

Field maintenance forces monitor these slopes continuously. In 2010 the senior Landscape Architect in Maintenance Design identified this location for permanent erosion control measures. In August 2010 the senior Landscape Architect in Design, Landscape Architecture North Region concurred and agreed to request programming for a source control project to address permanent erosion control within the project limits.

Purpose:

The purpose of this project is to comply with the Statewide NPDES Permit requirement to fix slopes having chronic erosion problems.

4. DEFICIENCIES

Erosion is occurring on bare earth slopes throughout the project limits. The soil erosion contributes sediment to the water entering drainage facilities within the project limits. Factors contributing to the lack of soil retention include poor soils incapable of supporting healthy perennial vegetation, plants that have exceeded their functional lifespan, plants that are not well adapted to the specific site soil conditions, and improper irrigation.

5. CORRIDOR AND SYSTEM COORDINATION

The District has commissioned Corridor Storm-water Management Studies from consultant CH2M Hill in response to a January 17, 2008 stipulation and court order to prepare corridor storm water management studies on District 7 drainage systems located within Los Angeles and Ventura counties. There is no corridor study for this route at this time.

This project proposal conforms to the District System Management Plan and Route Concept Plan.

6. ALTERNATIVES

Alternative 1 is the no build alternative. In this alternative the slopes would not be improved and would continue to erode. Sediment would continue to get washed into the storm drain. Slopes would not be stabilized as required in the Statewide NPDES permit.

Alternative 2 is the preferred alternative. Slopes and bare areas will be planted with ground covers. Shrubs and trees may be planted to improve soil water holding capacity. Soil building techniques such as incorporation of organic material will be used to aid establishment of plants in areas resistant to vegetative growth. Erodable areas where plants cannot be maintained will be paved. Permeable paving systems that allow water to percolate into the soil will be the first choice for inorganic ground cover; concrete will be used as a last choice. Irrigation systems will be modified or repaired.

7. COMMUNITY INVOLVEMENT

The Regional Water Quality Control Board requires that Caltrans prepare a Highway Runoff Management Plan. The proposed project is not within an area characterized as impacted for sediments. Therefore the Local Basin Plan imposes no requirements for erosion control.

8. ENVIRONMENTAL DETERMINATION/DOCUMENT

This proposal has received a finding of Categorical Exemption under category 4b of the California Environmental Quality Act (**CEQA**). The state has determined that the project is a Categorical Exclusion for (**NEPA**) under Activity 1 list in the MOU between FHWA and the State.

9. FUNDING

9A. CAPITAL COST

Capital Cost Estimate for the Alternative Identified for Programming in the 2012 SHOPP

Fiscal Year	Right of Way Capital	Construction Capital
2015	0	2,000,000
Total	0	2,000,000

9B. CAPITAL SUPPORT ESTIMATE FOR THE PROGRAMMABLE ALTERNATIVE IN THE 2010 SHOPP

	PROJECT SUPPORT COMPONENTS								
	PA&ED 0 Phase		Design 1 Phase		Right of Way 2 Phase		Construction 3 Phase		Total
	Dist	DES	Dist	DES	Dist	DES	Dist	DES	
Estimated P Y's	0.27		1.1	0.1	0	0	1.67		3.14
Estimated PS \$'s	48		227	25	0	0	300		600
Estimated PYE \$'s (\$1000's)					0	0			0
Total \$'s	48	0	227	25	0	0	300	0	600

10. SCHEDULE

HQ Milestones	Delivery Date (Month, Day, Year)
Begin Environmental	4/1/09
PA & ED	11/16/12
P&E	N/A
PSE	5/1/14
HQ PSE	7/9/14
ROW CERT	6/24/14
RTL	7/23/14
Funds Allocation	8/1/14
Advertise	9/4/14
Bids Open	10/1/14
Award	10/16/14
Approve Contract	10/30/14
CCA	10/25/18
Final Report	4/22/19
End Project	4/22/19

11. FHWA COORDINATION

No FHWA action is required for this project.

12. DISTRICT CONTACTS

Dennis Snyder, Project Manager	(213) 897-4299
Patty Watanabe, District Landscape Architect, North Region	(213) 897-0619
Jinous Saleh, Senior Environmental Planner	(213) 897-0683
Ed Siribohdi, Senior, Maintenance Design	(213) 620-4746

13. PROJECT REVIEWS

Field Review	Lee Do, Duc Trinh	Date	4/18/2011
District Maintenance	Ed Siribohdi	Date	7/27/2011
District NPDES Coordinator	Shirley Pak	Date	7/29/2011

District Quality Review	Project Development Team (See sign in sheet)	Date	<u>7/27/2011</u>
Project Manager	<u>Dennis Snyder</u>	Date	<u>7/27/2011</u>
<u>District SHOPP</u>			
<u>Program Advisor</u>	<u>Robert Wu</u>	Date	<u>7/15/2011</u>
<u>HQ SHOPP Program</u>			
<u>Advisor</u>	<u>Jagjiwan Grewal</u>	Date	<u>7/14/2011</u>

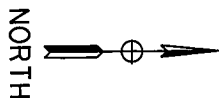
14. ATTACHMENTS

- a) Vicinity Map 7/1/2011
- b) Engineers Estimate 7/1/2011
- c) Project Support Cost Estimate 7/1/2011
- d) Right Of Way Datasheet 8/25/2011
- e) SHOPP Performance Output Table 8/1/2011
- f) Categorical Exemption (CE) -7/26/2011
- g) Storm Water Data Report -8/10/2011
- h) Project Development Team meeting sign in sheet -7/27/2011

CHECKED BY

EA 27830K

LAST REVISION	DATE PLOTTED => #DATE
00-00-00	TIME PLOTTED => #TIME



Source Control Cost Estimate

07-LA-210
Project # 07 0002 1033K
EA 28730K
Program Code
20.40.201.335

PROJECT DESCRIPTION:


Limits Route 210 in Azusa from Azusa Avenue to Big Dalton Wash

Preferred Alternative Permanent erosion control

SUMMARY OF PROJECT COST ESTIMATE

TOTAL ROADWAY ITEMS	\$2,000,000
TOTAL STRUCTURE ITEMS	\$0
SUBTOTAL CONSTRUCTION COSTS	
TOTAL RIGHT OF WAY ITEMS	\$0
TOTAL PROJECT CAPITAL OUTLAY COSTS	\$2,000,000

Reviewed by District Program Manager



Steve Tran 8/11/2011
Date

Approved by Project Manager



Dennis Snyder 8.11.11
Date

District-County-Route	07-LA-210
PM	39.8/41.9
Project #	07 0002 1033K

I. ROADWAY ITEMS

Section 1 Earthwork N/A
Section 2 Pavement N/A
Structural Section*

<u>Section 3 Drainage</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
Connect Bioswale to exist drainage system	6	EA	\$30,000	\$180,000	\$180,000
Connect BiosStrip to exist drainage system	2	EA	\$30,000	\$60,000	\$60,000

Subtotal Drainage	\$240,000
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<u>Section 4: Specialty Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
Water Pollution Control		LS	\$62,000	\$62,000	\$62,000
Resident Engineer Office Space		LS	\$80,000	\$80,000	\$80,000

Subtotal Specialty Items	\$142,000
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<u>Section 5: Traffic Items</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
Transportation Management Plan		LS	\$30,000	\$30,000	\$30,000

Subtotal Traffic Items	\$30,000
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<u>Section 6 Planting and Irrigation</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
PE (3yrs)		LS	\$160,000	\$160,000	\$160,000
Highway Planting		LS	\$230,000	\$230,000	\$230,000
Irrigation Modification		LS	\$420,000	\$420,000	\$420,000

Subtotal Planting and Irrigation Section	\$810,000
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District-County-Route	07-LA-210
PM	39.8/41.9
Project #	07 0002 1033K

<u>Section 7: Roadside Management and Safety</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Item Cost</u>	<u>Section Cost</u>
Erosion Control (Mulch)		LS	\$60,000	\$60,000	\$60,000
Off-freeway Access (gates, stairways, etc.)	2	EA	\$500.00	\$1,000	\$1,000
Minor Paving		LS	\$200,000	\$200,000	\$200,000
Subtotal Roadside Management and Safety					\$261,000

TOTAL SECTIONS: 1 thru 7	\$1,483,000
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Section 8: Minor Items

\$1,483,000	x (5%) =	\$74,150
(Subtotal Sections 1 thru 7)		
TOTAL MINOR ITEMS		\$74,150

Section 9: Roadway Mobilization

\$1,557,150	x (4%) =	\$62,286
(Subtotal Sections 1 thru 8)		
TOTAL ROADWAY MOBILIZATION		\$62,286

Section 10 Roadway Additions

Supplemental Work		
\$1,557,150	x (5%) =	\$77,858
(Subtotal Sections 1 thru 8)		
Contingencies		
\$1,557,150	x (19.4%) =	\$302,707
(Subtotal Sections 1 thru 8)		
TOTAL ROADWAY ADDITIONS		\$380,564
TOTAL ROADWAY ITEMS		\$2,000,000
(Subtotal Sections 1 thru 10)		

Estimate Prepared By

Lee Do

Phone

(213) 897-3463

Date

July 21, 2011

Estimate Checked By

Patty Watanabe

Phone

(213) 897-0463

Date

August 02, 2011

Memorandum

*Flex your power!
Be energy efficient!*

To: Lee Do, Design Manager,
Office of Design – C
District 7, Los Angeles Office

Date: August 24, 2011
EA: 28730K
Data Sheet ID NO: 1866
Project ID NO: 0700021033

From: Dan Murdoch, Office Chief
Right of Way Appraisals, and Planning & Management
District 7, Los Angeles Office

Subject: Current Estimated Right of Way Costs for **Project Report**

We have completed an estimate of the Right of Way costs for the above referenced project based on information received from Lee Do, PE, and the following assumptions and limiting conditions apply:

- The mapping did not provide sufficient detail to determine the limits of the right of way required.
- The transportation facilities have not been sufficiently designed so our estimator could determine the damages to any of the remainder parcels affected by the project. N/A
- Additional right of way requirements are anticipated, but are not defined due to the preliminary nature of the estimate. N/A
- We have determined there are no Railroad functional involvements in the proposed project at this time. No other right of way functional involvements noted per the Data Sheet Request.

Right of Way Certificate (RWC) lead time will require a minimum of N/A months after maps to appraisal (MA). Completed Appraisal maps include HMDD, COS, HW Memo, and RE-49. An executed copy of the new freeway agreement if required for the project. When utility relocation is warranted, utility conflict maps will be required. Additionally a minimum of 4 months will be required after receiving the last revision to the appraisal map. Shorter lead times will require either more right of way resources or an increased number of condemnation suits to be filed and present a risk to the RWC project delivery milestone.

Current Schedule:

PAED (M 200)	MA (M 224)	RWC (M 410)	RTL (M480)	CCA (M 600)
<u>10/1/2012(T)</u>	<u>N/A(T)</u>	<u>6/24/2014(T)</u>	<u>8/24/2014(T)</u>	<u>1/1/2015(T)</u>

TO
ATTN lee do
PHONE 2138973463
SENIOR R/W P&M
ROUTE 210
PM_KM 29.8/41.9
EA 28730K
ALT

R/W DATA SHEET

Date of Data Sheet 8/24/2011
WBS
REVISED
UPDATED
PROJ_DESC pid - source control

ID NO
1866

This cost estimate is pursuant to the following statements which are based on information provided by .

This cost estimate is valid for the above scoping report only. This is an estimate only and not an appraisal. It may be based on worse case scenarios. The estimate is subject to change and revision.

The mapping did not provide sufficient nor adequate detail to determine the limits of the Right of Way required and effects on the improvements.

The transportation facilities have not been sufficiently designed for our estimator to determine the damages to any of the remainder parcels affected by the project.

Residential displacement is not involved .

Utility facilities or Utility Right of Way are not affected.

Railroad facilities or R.R. Right of Way are not affected.

Time constraints precluded a detailed cost estimate.

The time schedule provided by the requesting party allowed for a field inspection.

RW COST ESTIMATE		
	CURRENT VALUE	ESCALATED VALUE
R/ w acq.(incl.contingency G.w-condem.-adm.s'tl.)Permits	NONE	NONE
Clearance	NONE	NONE
RAP (cont rate.)	NONE	NONE
Escrow costs (cont rate.)	NONE	NONE
Utility relocation costs	NONE	NONE
Estimate of Reimbursed Appraisal Fee	NONE	NONE
Total estimated cost	NONE	NONE

ESCALATION RATE RW .07
ESCALATION RATE Utilities 0.08
CERT.DATE 6/24/14

According to lee do, no RW is required for this job.

PARCEL COUNT

	PARCEL TYPES	DUAL APPR.
A		
B		
C		
D		
F		
W		

	RIGHTS NEEDED
FEE	
EASE	
TCE	

	TAKES
FULL	
PART	
TOTAL	

DISPLACEMENT OF UNITS	
SFR	
MULTI	
BUS	

PARCELS WITH
RAP

0

POTENTIAL
CLEARANCE
PARCELS

POTENTIAL
CONDEMNATION
PARCELS

POTENTIAL EXCESS PARCELS

not known at this time.

APPRAISALS

	PY	HOURS
A		
B		
C		
D		
F		
W		
Dual		

ACQUISITIONS

	PY	HOURS
A		
B		
C		
D		
F		

UTILITIES

	PY	SCORE
PY U4 1		
PY U4 2		
PY U4 3		
PY U4 4		
PY U5 7		
PY U5 8		
PY U5 9		

RAILROAD

	PY	HOURS
C & M		
SC		
LIC/RE		

CONDEMNATION

PY	HOURS

CLEARANCE

PY	HOURS

RELOCATION

PY	HOURS

PERMITS

PY	HOURS

UTILITY INFORMATION

Are Utilities affected: no

[illegible]

Are utility easements required _____

No. of easements -

Are Utility agreements required

TOTAL CURRENT COST NONE

CONST. COMPLETION DATE 1/1/2015

Types of Util. Facilities & agrmts. required	Description
Water	Water is supplied by the City of San Francisco. The project is located within the city limits and is served by the city's water supply system. The project is not a water-using facility and does not require any special water supply arrangements.
Electricity	Electricity is supplied by the City of San Francisco. The project is located within the city limits and is served by the city's electric supply system. The project is not a high-energy facility and does not require any special electricity supply arrangements.
Gas	Gas is supplied by the City of San Francisco. The project is located within the city limits and is served by the city's gas supply system. The project is not a high-pressure gas facility and does not require any special gas supply arrangements.
Other	Other utilities include sewerage, telephone, and cable. The project is located within the city limits and is served by the city's sewerage, telephone, and cable supply systems. The project is not a high-pressure gas facility and does not require any special gas supply arrangements.

UTILITY ESCALATION RATE 8%

ESCALATED VALUE TO NONE
UTILITY CONSTRUCTION
COMPLETION DATE

RR INFORMATION

Are RR affected no

Describe affected RR There is no railroad involvement for this project.

WHEN BRANCH LINES OR SPURS ARE AFFECTED ,WOULD ACQUISITION AND OR PAYMENT OF DAMAGES TO BUSINESSES AND OR INDUSTRIES SERVED BY THE RAILROAD FACILITY BE MORE COST EFFECTIVE THAN SERVICE CONTRACTS ,OR GRADE SEPARATIONS REQUIRING CONSTRUCTION AND MAINTENANCE AGREEMENTS INVOLVED?

none

Explain Branch lines n/a

DISCUSS TYPES OF AGREEMENTS AND RIGHTS REQUIRED FROM THE RAILROADS. ARE GRADE XING REQUIRING SERVICE CONTRACTS ,OR GRADE SEPARATIONS REQUIRING CONSTRUCTION AND MAINTENANCE AGREEMENTS INVOLVED.

none

ESTIMATED COST TO THE STATE FOR ALL R.R. INVOLVEMENTS. \$0

DATE

Right of Way Estimate prepared by Roy Gallegos

8/24/11

Railroad Estimate prepared by Lowell Anderson

7/22/11

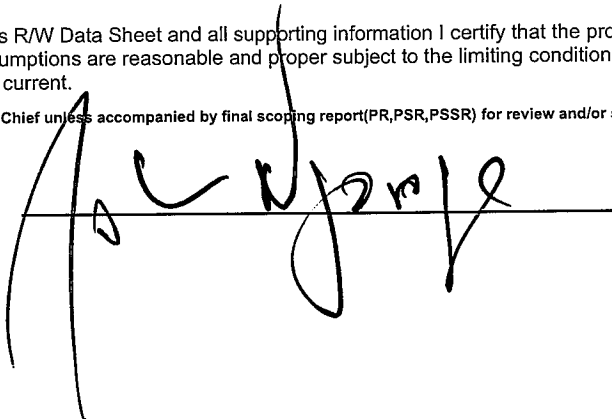
Utilities Estimate prepared by Billy E Cooper

7/23/11

I have personally reviewed this R/W Data Sheet and all supporting information I certify that the probable highest and best use estimated values and assumptions are reasonable and proper subject to the limiting conditions set forth and I find this Data Sheet complete and current.

This Data Sheet is not to be signed by Chief unless accompanied by final scoping report(PR,PSR,PSSR) for review and/or signature.

Senior Right of Way Agent

 8/25/11

SHOPP Project Performance Output

Update Date: 08/10/2011		Source		Program	Fiscal	RTL	Programming Information (\$1,000)			
District - County - Rte -PM		EA	PPNO	Code	Year	Date	R/W 0	Construction \$ 1	\$2,000	\$811
07-LA-210-39.8/41.9		287300	4190	335	2015	07/2014	Project Manager : Dennis Snyder			
Location: In Azusa from Azusa Avenue to Big Dalton Wash						HQ Program Manager: Jagjiwan Grewal				
Project Discription: Source Control (Erosion Control)										
PROGRAM	ACCT. CODE 20.XX.	Ten Year Plan	Quantity of Performance Output				CCA	After Constr uction	PERFORMANCE units	
		PID	PA&ED	RTL						
Approval Date		2012	09/1/11	Output Cost	11/16/12		Output Cost			
Construction Cost (\$1,000)			2000		2000					
Right of Way Cost (\$1,000)			0		0					
Support Cost Cost (\$1,000)			600	(\$1,000)	811		(\$1,000)			
EMERGENCY RESPONSE										
Major Damage Restoration	201.130								Locations	
Permanent Restoration	201.131								Locations	
COLLISION REDUCTION										
Safety Improvements	201.010								Collision Reduce	
Collision Severity Reduction	201.015								Collision Reduce	
Median Barrier Upgrade	201.020								Centerline Miles	
MANDATES										
Relinquishments	201.160								Lane Miles	
Noise Attenuation for Schools	201.270								Locations	
Railroad	201.325								Locations	
Hazardous Waste Mitigation	201.330								Locations	
Storm Water	201.335		18.000		18.000			XXXX	Acres Treated / Pollutant	
ADA Compliance	201.361								Curb Ramps	
SHOPP TEA	201.736								Locations	
BRIDGE PRESERVATION										
Bridge Rehabilitation	201.110								Bridges	
Bridge Scour Mitigation	201.111								Bridges	
Bridge Rail Replacement/Upgrade	201.112								Linear Feet	
Bridge Seismic Restoration	201.113								Bridges	
Bridge Widening	201.114								Bridges	
Trans Permit Requirements for Bridges	201.322								Bridges	
ROADWAY PRESERVATION										
Roadway Rehabilitation (3R)	201.120								Lane Miles	
Pavement Preservation (CAPM)	201.121								Lane Miles	
Pavement Rehabilitation (2R)	201.122								Lane Miles	
Long-Life Pavement Corridors (4R)	201.125								Lane Miles	
Roadway Protective Betterment	201.150								Locations	
Drainage System Restoration	201.151								Culverts	
Signs and Lighting Rehabilitation	201.170								Signs Light Fixtures	
MOBILITY										
Operational Improvements	201.310								Daily Vehicle Hours of delay	
Transportation Management Systems	201.315								Field Elements	
Truck Inspection & WIM Facilities	201.321								Miles of fiber Locations	
ROADSIDE PRESERVATION										
Highway Planting Restoration	201.210								Acres	
Freeway Maintenance Access	201.230								Locations	
Roadside Enhancement	201.240								Locations	
Beautification and Modernization	201.245								Centerline Miles	
Safety Roadside Rest Area Restoration	201.250								Locations	
New Safety Roadside Rest Areas	201.260								Locations	
FACILITIES										
Equipment Facilities	201.351								Locations	
Maintenance Facilities	201.352								Locations	
Office Buildings	201.353								Locations	
Materials Lab	201.354								Locations	
Additional Performance Units										
Paved Shoulders										

CATEGORICAL EXEMPTION/ CATEGORICAL EXCLUSION DETERMINATION FORM

07-LA-210 39.8/41.0 07-28730K 0700021033/201107003
 Dist.-Co.-Rte. (or Local Agency) P.M.P.M. E.A. (State project) Federal-Aid Project No. (Local project)/ Proj. No.

PROJECT DESCRIPTION:

(Briefly describe project, purpose, location, limits, right-of-way requirements, and activities involved.)
 Enter project description in this box. Use Continuation Sheet, if necessary

The Department of Transportation (Caltrans) is proposing landscape rehabilitation on I-210, from the Azusa Avenue (PM 39.8) in the City of Azusa, to Barranca Avenue Overcrossing (PM 41.0) in the City of Covina, within the County of Los Angeles. The project will be a means of permanent erosion control. The project will repair irrigation systems and install plants to stabilize the soil surface and control erosion. Erodible areas where plants cannot be maintained will be paved for permanent cover. All of the work will be within the Caltrans right-of-way and within the prism of the roadway. Environmental studies have concluded that this project will not adversely impact biological or cultural resources, expose the public to any hazardous waste, or disrupt or worsen traffic circulation, if the attached Special Provisions are adhered to.

CEQA COMPLIANCE (for State Projects only)

Based on an examination of this proposal, supporting information, and the following statements (See 14 CCR 15300 et seq.):

- If this project falls within exempt class 3, 4, 5, 6 or 11, it does not impact an environmental resource of hazardous or critical concern where designated, precisely mapped and officially adopted pursuant to law.
- There will not be a significant cumulative effect by this project and successive projects of the same type in the same place, over time.
- There is not a reasonable possibility that the project will have a significant effect on the environment due to unusual circumstances.
- This project does not damage a scenic resource within an officially designated state scenic highway.
- This project is not located on a site included on any list compiled pursuant to Govt. Code § 65962.5 ("Cortese List").
- This project does not cause a substantial adverse change in the significance of a historical resource.

CALTRANS CEQA DETERMINATION (Check one)

☐ Exempt by Statute. (PRC 21080[b]; 14 CCR 15260 et seq.)

Based on an examination of this proposal, supporting information, and the above statements, the project is:

☒ Categorically Exempt. Class Appendix A MOU. (PRC 21084; 14 CCR 15300 et seq.)

☐ Categorically Exempt. General Rule exemption. [This project does not fall within an exempt class, but it can be seen with certainty that there is no possibility that the activity may have a significant effect on the environment (CCR 15061[b][3])]

Cheryl Henderson

Print Name: Environmental Branch Chief

[Signature] 7/11/11
 Signature Date

Dennis Snyder

Print Name: Project Manager/DLA Engineer

[Signature] 7-26-11
 Signature Date

NEPA COMPLIANCE

In accordance with 23 CFR 771.117, and based on an examination of this proposal and supporting information, the State has determined that this project:

- does not individually or cumulatively have a significant impact on the environment as defined by NEPA and is excluded from the requirements to prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS), and
- has considered unusual circumstances pursuant to 23 CFR 771.117(b) (<http://www.fhwa.dot.gov/hep/23cfr771.htm> - sec.771.117).

In non-attainment or maintenance areas for Federal air quality standards, the project is either exempt from all conformity requirements, or conformity analysis has been completed pursuant to 42 USC 7506(c) and 40 CFR 93.

CALTRANS NEPA DETERMINATION (Check one)

☒ Section 6004: The State has been assigned, and hereby certifies that it has carried out, the responsibility to make this determination pursuant to Chapter 3 of Title 23, United States Code, Section 326 and a Memorandum of Understanding (MOU) dated June 7, 2010, executed between the FHWA and the State. The State has determined that the project is a Categorical Exclusion under:

☐ 23 CFR 771.117(c): activity (c)()

☐ 23 CFR 771.117(d): activity (d)(1)

☒ Activity 1 listed in the MOU between FHWA and the State

☐ Section 6005: Based on an examination of this proposal and supporting information, the State has determined that the project is a CE under Section 6005 of 23 U.S.C. 327.

Cheryl Henderson

Print Name: Environmental Branch Chief

[Signature] 7/11/11
 Signature Date

Dennis Snyder

Print Name: Project Manager/DLA Engineer

[Signature] 7-26-11
 Signature Date

Briefly list environmental commitments on continuation sheet. Reference additional information, as appropriate (e.g., air quality studies, documentation of conformity exemption, FHWA conformity determination if Section 6005 project; §106 commitments; §4(f); §7 results; Wetlands Finding; Floodplain Finding; additional studies; and design conditions). Revised June 7, 2010

Categorical Exclusion Checklist

Dist/Co/Rte/PM: 07/LA/210/39.8/41.0	Fed. Aid No: 0700021033	Project ID: 07-28730K
-------------------------------------	-------------------------	--------------------------

SECTION 1: TYPE OF CE: Use the information in this section to determine the applicable CE and corresponding activity for this project.

1. Project is a CE under SAFETEA-LU Section 6004 (23 U.S.C. 326). ☒ Yes ☐ No
 If "yes", check applicable activity in one of the three tables below (activity must be listed in 23 CFR 771.117 (c) or (d) list or included in activities listed in Appendix A of the MOU to be eligible for Section 6004).

Activity Listed in 23 CFR 771.117(c)			
1 <input type="checkbox"/>	Activities which do not involve or lead directly to construction	12 <input type="checkbox"/>	Improvements to existing rest areas and truck weigh stations.
2 <input type="checkbox"/>	Utility installations along or across a transportation facility	13 <input type="checkbox"/>	Ridesharing activities
3 <input type="checkbox"/>	Bicycle and pedestrian lanes, paths, and facilities	14 <input type="checkbox"/>	Bus and rail car rehabilitation
4 <input type="checkbox"/>	Activities included in the State's <i>highway safety plan</i> under <u>23 U.S.C. 402</u>	15 <input type="checkbox"/>	Alterations to facilities or vehicles in order to make them accessible for elderly and handicapped persons
5 <input type="checkbox"/>	Transfer of Federal lands pursuant to 23 U.S.C. 107(d) and/or 23 U.S.C. 317 when the land transfer is in support of an action that is not otherwise subject to FHWA review under NEPA	16 <input type="checkbox"/>	Program administration, technical assistance activities, and operating assistance to transit authorities to continue existing service or increase service to meet routine changes in demand
6 <input type="checkbox"/>	Installation of noise barriers or alterations to existing publicly owned buildings to provide for noise reduction	17 <input type="checkbox"/>	Purchase of vehicles by the applicant where the use of these vehicles can be accommodated by existing facilities or by new facilities which themselves are within a CE
7 <input type="checkbox"/>	Landscaping	18 <input type="checkbox"/>	Track and rail bed maintenance and improvements when carried out within the existing right-of-way
8 <input type="checkbox"/>	Installation of fencing, signs, pavement markings, small passenger shelters, traffic signals, and railroad warning devices where no substantial land acquisition or traffic disruption will occur	19 <input type="checkbox"/>	Purchase and installation of operating or maintenance equipment to be located within the transit facility and with no significant impacts off the site
9 <input type="checkbox"/>	Emergency repairs under <u>23 U.S.C. 125</u>	20 <input type="checkbox"/>	Promulgation of rules, regulations, and directives
10 <input type="checkbox"/>	Acquisition of scenic easements	21 <input type="checkbox"/>	Deployment of electronics, photonics, communications, or information processing used singly or in combination, or as components of a fully integrated system, to improve the efficiency or safety of a surface transportation system or to enhance security or passenger convenience. Examples include, but are not limited to, traffic control and detector devices, lane management systems, electronic payment equipment, automatic vehicle locaters, automated passenger counters, computer-aided dispatching systems, radio communications systems, dynamic message signs, and security equipment including surveillance and detection cameras on roadways and in transit facilities and on buses
11 <input type="checkbox"/>	Determination of payback under <u>23 CFR part 480</u> for property previously acquired with Federal-aid participation		

Categorical Exclusion Checklist (continued)

Activity Listed in Examples in 23 CFR 771.117(d)			
1 <input type="checkbox"/>	Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (e.g., parking, weaving, turning, climbing)	8 <input type="checkbox"/>	Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes, not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic
2 <input type="checkbox"/>	Highway safety or traffic operations improvement projects including the installation of ramp metering control devices and lighting	9 <input type="checkbox"/>	Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required and there is not a substantial increase in the number of users
3 <input type="checkbox"/>	Bridge rehabilitation, reconstruction or replacement or the construction of grade separation to replace existing at-grade railroad crossings	10 <input type="checkbox"/>	Construction of bus transfer facilities when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic
4 <input type="checkbox"/>	Transportation corridor fringe parking facilities	11 <input type="checkbox"/>	Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and where there is no significant noise impact on the surrounding community
5 <input type="checkbox"/>	Construction of new truck weigh stations or rest areas	12 <input type="checkbox"/>	<p>Acquisition of land for hardship or protective purposes. Hardship and protective buying will be permitted only for a particular parcel or a limited number of parcels. These types of land acquisition qualify for a CE only where the acquisition will not limit the evaluation of alternatives, including shifts in alignment for planned construction projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed</p> <p>(i) Hardship acquisition is early acquisition of property by the applicant at the property owner's request to alleviate particular hardship to the owner, in contrast to others, because of an inability to sell his property. This is justified when the property owner can document on the basis of health, safety or financial reasons that remaining in the property poses an undue hardship compared to others</p> <p>(ii) Protective acquisition is done to prevent imminent development of a parcel which may be needed for a proposed transportation corridor or site. Documentation must clearly demonstrate that development of the land would preclude future transportation use and that such development is imminent. Advance acquisition is not permitted for the sole purpose of reducing the cost of property for a proposed project</p>
6 <input type="checkbox"/>	Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts	13 <input type="checkbox"/>	Acquisition of pre-existing railroad right-of-way pursuant to 49 U.S.C. 5324(c). No project development on the acquired railroad right-of-way may proceed until the NEPA process for such project development, including the consideration of alternatives, has been completed
7 <input type="checkbox"/>	Approvals for changes in access control		

Activity Listed in Appendix A of the MOU for State Assumption of Responsibilities for Categorical Exclusions			
1 <input checked="" type="checkbox"/>	Construction, modification, or repair of storm water treatment devices, protection measures such as slope stabilization, and other erosion control measures	5 <input type="checkbox"/>	Routine seismic retrofit of facilities to meet current seismic standards and public health and safety standards without expansion of capacity
2 <input type="checkbox"/>	Replacement, modification, or repair of culverts or other drainage facilities	6 <input type="checkbox"/>	Air space leases that are subject to Subpart D, Part 710, Title 23, Code of Federal Regulations
3 <input type="checkbox"/>	Projects undertaken to assure the creation, maintenance, restoration, enhancement, or protection of habitat for fish, plants, or wildlife	7 <input type="checkbox"/>	Drilling of test bores/soil sampling to provide information for preliminary design and for environmental analyses and permitting purposes
4 <input type="checkbox"/>	Routine repair of facilities due to storm damage, including permanent repair to return the facility to operational condition that meets current standards of design and public health and safety without expanding capacity (e.g., slide repairs, construction or repair of retaining walls)		

Categorical Exclusion Checklist (continued)

2. Project is a CE for a highway project under SAFETEA-LU Section 6005 (23 U.S.C. 327). ☐ Yes ☒ No
(Use only if project does not qualify under Section 6004 [activities not included in three previous lists above].)

3. Exceptions to Categorical Exclusions/Unusual Circumstances (23 CFR 771.117[b]).

FHWA regulation 23 CFR 771.117(b) provides that any action which normally would be classified as a CE but could involve *unusual circumstances* requires the Department to conduct appropriate environmental studies to determine if the CE classification is proper. Unusual circumstances include actions that involve:

- Significant environmental impacts;
- Substantial controversy on environmental grounds;
- Significant impact on properties protected by section 4(f) of the DOT Act or section 106 of the National Historic Preservation Act; or
- Inconsistencies with any Federal, State, or local law, requirement or administrative determination relating to the environmental aspects of the action

All of the above unusual circumstances have been considered in conjunction with this project.

☐ Checking this box certifies that none of the above conditions apply and that the Categorical Exclusion remains valid.

☐ Checking this box certifies that unusual circumstances are involved, however, the appropriate studies/analysis have been completed and it has been determined that the CE classification is still appropriate.

SECTION 2: Compliance with FHWA NEPA policy to complete all other applicable environmental requirements¹ prior to making the NEPA determination:

1. During the environmental review process for which this CE was prepared, all applicable environmental requirements were evaluated. Outcomes for the following requirements are identified below and fully documented in the project file.

Air Quality

☒ AQ checklist has been completed and project meets all applicable AQ requirements.

Cultural Resources

☒ Section 106 compliance is complete

Finding: ☐ Screened Undertaking ☒ No Effect ☐ No Adverse Effect ☐ Adverse Effect/MOA

Noise

23 CFR 772

☐ Check box if project is a Type 1 project; if not, skip this section.

☐ Future noise levels with project either approach or exceed NAC or result in a substantial increase
If yes, ☐ Abatement is reasonable and feasible ☐ Abatement is not reasonable or feasible

Waters, Wetlands, Floodplains

- Water Quality; Section 404 of the Clean Water Act

Impacts to Waters of the US: ☐ Yes ☒ No

If yes, approval anticipated:

☐ Nationwide Permit ☐ Individual Permit ☐ Regional General Permit ☐ Letter of Permission

- Section 401 of the Clean Water Act

☒ Exemption ☐ Certification

- Wetland Protection (Executive Order #11990)

☒ No wetland impact ☐ Only Practicable Alternative Finding is included in the CE attachment

☐ Only Practicable Alternative Finding is included in a separate document in the project file

- Floodplains (Executive Order #11988)

☒ No Floodplain Encroachment ☐ No Significant Encroachment ☐ Significant Encroachment

¹ Please consult the SER for a complete list of applicable laws, statutes, regulations, and executive orders that must be considered before completing the CE.

Categorical Exclusion Checklist (continued)

Biology

- Section 7 (Federal Endangered Species Act) Consultation Findings (Effect determination)
☒ No Effect ☐ Not Likely to Adversely Affect ☐ Likely to Adversely Affect
- Essential Fish Habitat (Magnuson-Stevens Act) Findings (Effect determination):
☒ No Effect ☐ Adverse Effect ☐ No Adverse Effect

Section 4(f) Transportation Act (23 CFR 774)

- Section 4(f) regulation was considered as a part of the review for this project and a determination was made:
☒ Section 4(f) does not apply
(Project file includes documentation that property is not a Section 4(f) property, that project does not use a Section 4(f) property, or that the project meets the criteria for temporary occupancy.)
☐ Section 4(f) applies
☐ De Minimis
☐ Programmatic: Type _____ (List one of the five appropriate categories as defined in 23 CFR 774.3)
☐ Individual: ☐ Legal Sufficiency Review complete ☐ HQ Coordinator Review Complete
Section 6(f)—Was the above property purchased with grant funds from the Land and Water Conservation Fund?
☒ No, Section 6(f) does not apply. No additional documentation required.
☐ Yes ☐ Documentation of approval from National Park Service Director (through California State Parks) has been received for the conversion/and replacement of 6(f) property.

Coastal Zone

Coastal Zone Management Act of 1972

- ☒ Not in Coastal Zone ☐ Qualifies for Exemptions ☐ Qualifies for Waiver ☐ Coastal Permit Required
- ☐ Consistent with Federal State and Local Coastal Plans ☐ Federal Consistency Determination

Relocation

- ☒ No Relocations
- ☐ Project involves _____ (#) relocations and will follow the provisions of the Uniform Relocation Act.

Hazardous Waste and Materials

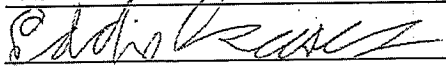
- ☒ None
- ☐ Contamination is present. Nature and extent of contamination ☐ is fully known. ☐ is not fully known.
If not fully known, briefly discuss plan for securing information:

SECTION 3: Certification

Based on the information obtained during environmental review process and included in this checklist, the project is determined to be a Categorical Exclusion pursuant to the National Environmental Policy Act and is in compliance with all other applicable environmental laws, regulations and Executive Orders.

Prepared by: Eddie Isaacs

Title: Associate Environmental Planner, District 7 Division of Environmental Planning

Signature:  Date: June 30, 2011

M e m o r a n d u m

*Flex your power!
Be energy efficient!*

To: Lee Do
Landscape Associate

Date: May 24, 2011

File: 07-LA-210
PM 39.8/41.0

EA: 28730K

From: **DEPARTMENT OF TRANSPORTATION**
OEECS- HAZARDOUS WASTE BRANCH

Subject: *Request for Hazardous Waste Assessment*

This is in response to your request dated May 12, 2011 for a Hazardous Waste Assessment for a landscape improvement project. This landscape project is on Route 210 from PM 39.8 to 41.0. The scope of the work consists of planting, irrigation, and a minor amount of paving to control erosion within the state right-of-way. We have completed our review and based on the available information, this project is given a Hazardous Waste Assessment as noted below.

This segment of the freeway (previously Route 30) was built in 1993. The scope of the work consisted of widening the freeway and construction of barriers and soundwall. Due to that construction new construction, most of the widened areas within the project limits were excavated for about 5 feet or more. Therefore, there is no concern for ADL within the project limits.

There is no other hazardous waste concern for this project.

Please inform us of any changes made to the scope of work.

If you have any question or need additional information, please contact me at 213-897-0670 or contact Sameer Khaitan of my staff at 213-897-0458.



Ayubur Rahman
District Hazardous Waste Coordinator, North Region
Office of Environmental Engineering and Corridor Studies

TRANSPORTATION MANAGEMENT PLAN DATASHEET

(Preliminary TMP Elements and Costs - PSSR Stage)

Co/Rte/PM LA-210 PM 39.8/41.0 EA 07-28730K Alternative No. _____

Project Limit Route 210 from 0.2 miles east of Azusa Ave to Big Dalton Wash

Project Description Install plants, irrigation and a minor amount of paving to control erosion within the right of way

1) Public Information

- | | |
|---|----------|
| <input type="checkbox"/> a. Brochures and Mailers | \$ _____ |
| <input checked="" type="checkbox"/> b. Press Release | _____ |
| <input type="checkbox"/> c. Paid Advertising | \$ _____ |
| <input type="checkbox"/> d. Public Information Center/Kiosk | \$ _____ |
| <input type="checkbox"/> e. Public Meeting/Speakers Bureau | _____ |
| <input type="checkbox"/> f. Telephone Hotline | _____ |
| <input type="checkbox"/> g. Internet | _____ |
| <input type="checkbox"/> h. Others _____ | \$ _____ |

2) Motorists Information Strategies

- | | |
|---|----------|
| <input type="checkbox"/> a. Changeable Message Signs (Fixed) | \$ _____ |
| <input type="checkbox"/> b. Changeable Message Signs (Portable) | \$ _____ |
| <input type="checkbox"/> c. Ground Mounted Signs | \$ _____ |
| <input type="checkbox"/> d. Highway Advisory Radio | \$ _____ |
| <input type="checkbox"/> e. Caltrans Highway Information Network (CHIN) | _____ |
| <input type="checkbox"/> f. Others _____ | \$ _____ |

3) Incident Management

- | | |
|--|----------|
| <input checked="" type="checkbox"/> a. Construction Zone Enhanced Enforcement Program (COZEPP) | \$15,000 |
| <input type="checkbox"/> b. Freeway Service Patrol | \$ _____ |
| <input type="checkbox"/> c. Traffic Management Team | _____ |
| <input type="checkbox"/> d. Helicopter Surveillance | \$ _____ |
| <input type="checkbox"/> e. Traffic Surveillance Stations (Loop Detector and CCTV) | \$ _____ |
| <input type="checkbox"/> f. Others _____ | \$ _____ |

4) Construction Strategies

- ☒ a. Lane Closure Chart
- ☐ b. Reversible Lanes
- ☐ c. Total Freeway Mainline Closure
- ☐ d. Extended Weekend Closure
- ☐ e. Contra Flow
- ☐ f. Truck Traffic Restrictions \$
- ☐ g. Reduced Speed Zone \$
- ☐ h. Connector and Ramp Closures
- ☐ i. Incentive and Disincentive \$
- ☐ j. Moveable Barrier \$
- ☐ k. Others \$

5) Demand Management

- ☐ a. HOV Lanes/Ramps (New or Convert) \$
- ☐ b. Park and Ride Lots \$
- ☐ c. Rideshare Incentives \$
- ☐ d. Variable Work Hours
- ☐ e. Telecommute
- ☐ f. Ramp Metering (Temporary Installation) \$
- ☐ g. Ramp Metering (Modify Existing) \$
- ☐ h. Others \$

6) Alternative Route Strategies

- ☐ a. Add Capacity to Freeway Connector/Ramps \$
- ☐ b. Street Improvement (widening, traffic signal... etc) \$
- ☐ c. Traffic Control Officers \$
- ☐ d. Parking Restrictions
- ☐ e. Others \$

7) Other Strategies

- ☐ a. Application of New Technology \$
- ☐ e. Others \$

TOTAL ESTIMATED COST OF TMP ELEMENTS =

\$15,000

Project Notes:

- 1) A Public Awareness Campaign (PAC) was prepared by Media Relations / Public Affairs which would only require to issue a press release.
- 2) The Construction Traffic Manager prepared the COZEEP cost estimate.
- 3) All freeway lane and ramp closures shall conform with the hours and requirements in the Maintaining Traffic Specifications Charts.
- 4) Since project TMP cost was based on limited design information, any changes to the scope of the project will require a re-evaluation of the TMP Data Sheet.
- 5) The duration of this project is estimated to be 6 months to 1 year and is set for construction in approximately October/2014.

PREPARED BY

Gerardo Villanueva

DATE 5/20/11

Gerardo Villanueva,
Transportation Engineer

APPROVAL RECOMMENDED BY

Martin Oregel

DATE 5/20/11

Martin Oregel,
Senior Transportation Engineer

APPROVED BY

John Yang

DATE 5/23/11

John Yang,
District Traffic Manager

Long Form - Storm Water Data Report



Dist-County-Route: 07-LA-210
 Post Mile Limits: 39.8/ 41.9
 Project Type: Source Control
 Project ID (or EA): 0700021033 (28730K)
 Program Identification: 40.50.201.335
 Phase: ☒ PID
 ☐ PA/ED
 ☐ PS&E

Regional Water Quality Control Board(s): Los Angeles - Region 4

Is the Project required to consider Treatment BMPs? Yes ☒ No ☐
 If yes, can Treatment BMPs be incorporated into the project? Yes ☒ No ☐

If No, a Technical Data Report must be submitted to the RWQCB
 at least 30 days prior to the projects RTL date.

List RTL Date: _____

Total Disturbed Soil Area: 18.0 acres Risk Level: 2

Estimated: Construction Start Date: 2/1/2013 Construction Completion Date: 1/1/2015

Notification of Construction (NOC) Date to be submitted: 01/01/2013

Erosivity Waiver Yes ☐ Date: _____ No ☒
 Notification of ADL reuse (if Yes, provide date) Yes ☐ Date: _____ No ☒
 Separate Dewatering Permit (if yes, permit number) Yes ☐ Permit # _____ No ☒

This Report has been prepared under the direction of the following Licensed Person. The Licensed Person attests to the technical information contained herein and the date upon which recommendations, conclusions, and decisions are based. Professional Engineer or Landscape Architect stamp required at PS&E.

Patricia Watanabe, Registered Project Engineer/ Landscape Architect

8/3/11
 Date

I have reviewed the stormwater quality design issues and find this report to be complete, current and accurate:

Dennis Snyder, Project Manager

8.3.11
 Date

(For Roger Castillo)
 Roger Castillo, Designated Maintenance Representative

8/4/11
 Date

Ron Russak, Designated Landscape Architect Representative

08.10.11
 Date

[Stamp Required for PS&E only]

Shirley Pak, District/Regional Design SW Coordinator or Designee Date *8/10/2011*



STORM WATER DATA INFORMATION

1. Project Description

This is a stormwater source control project located on east and west Route 210 from Azusa Avenue to Big Dalton Wash. The project proposes to improve infiltration and percolation of stormwater, filtering the water through layers of organic matter and soil to improve water quality. The majority of work associated with the project will be the installation of ground covers and prostrate shrubs as well as modification of existing irrigation systems to irrigate the plantings. Areas where plants cannot be safely maintained whether due to proximity to traffic or extreme shading will be paved. Design details will be provided during the PA/ED phase of project development. This project will disturb approximately 18 acres of soil. Disturbed soil area is calculated for this project initiation phase as unpaved area within the right of way. Existing impervious surfaces cover 35.2 acres of the project area (including roadway). After project completion impervious surfaces may cover 35.4 acres (including roadway) for a net increase of 0.2 acres. This project falls within the Los Angeles MS4 area.

2. Site Data and Storm Water Quality Design Issues (refer to Checklists SW-1, SW-2, and SW-3)

This project site is located within the jurisdiction of the Los Angeles Regional Water Quality Control Board (LARWQCB). No RWQCB special requirements/concerns.

The nearest 303(d) listed receiving water body is Walnut Creek Wash (Drains from Puddingstone Res), and its associated pollutants of concern are pH and Toxicity. SanGabriel River Hydrologic Unit, Upper San Gabriel Hydrologic Area, and Hydrologic Sub-Area 405.20.

The HSG soil classification is B.

401 certification is not required.

There is no Drinking Water Reservoirs and/or Recharge Facilities within project limit.

The rainy season in the project is from October 1st through May 1st.

The proposed project does not involve the reuse of soil containing Aerially Deposited Lead (ADL)

No right-of-way costs are required for the purpose of implementing permanent treatment BMPs.

The proposed project would be constructed to minimize erosion and stormwater impacts by installation of ground covers and prostrate shrubs as well as modification of existing irrigation systems to irrigate the plantings.

There are no existing permanent Treatment BMPs located within the project limits.

The project limits are in the San Gabriel River Watershed. The TMDLs are as follows:

Established TMDLs

The Trash TMDL for the East Fork of San Gabriel River has been in effect since April 17, 2001. Caltrans is not a responsible party.



Future TMDL

San Gabriel River and Impaired Tributaries Metals and Selenium TMDL

The San Gabriel River and Impaired Tributaries Metals and Selenium TMDL is anticipated to become effective in the near future. Caltrans will be working with groups of Responsible Agencies to jointly comply with the TMDL. Targeted pollutants are copper, lead, zinc and selenium. Project Engineer shall consider treatment controls for the project and consult with the District NPDES Storm Water Coordinator.

The project's risk level is 2.

3. Regional Water Quality Control Board Agreements

- RWQCB agreements conform to NPDES #CAS 000002 and #CAS 000003.
- An NOC will be submitted 1/1/2013.

4. Proposed Design Pollution Prevention BMPs to be used on the Project.

Downstream Effects Related to Potentially Increased Flow, Checklist DPP-1, Parts 1 and 2

The project will not discharge to unlined channels. Existing conditions are vegetated slopes. Post construction conditions will be fully covered soils, either with vegetation, mulches or minor concrete pavement. Mulches will be considered by the project designer. Narrow areas and steep slopes in deep shade may be paved. Future sediment loading should be greatly reduced when the planting work is complete. There will be no hydraulic changes implemented with this project.

Slope/Surface Protection Systems, Checklist DPP-1, Parts 1 and 3

There will be no cut and fill. Existing slopes are sparsely landscaped and exhibit erosion. The soil surface will be protected with a combination of planting and paving. These ground covering methods will protect against raindrop impact, a primary initiator of erosion on bare soils. In planted areas, mulches will stabilize the soil surface until plant growth is sufficient to hold the soil in place.

Concentrated Flow Conveyance Systems, Checklist DPP-1, Parts 1 and 4

Biofiltration Strips and Swales may be implemented in this project.

Preservation of Existing Vegetation, Checklist DPP-1, Parts 1 and 5

Roadside clearing will be used instead of clearing and grubbing. Specifications for Roadside Clearing are used to prepare landscaped areas for planting, irrigation and minor paving. Existing healthy landscape will be preserved to the greatest extent possible. Weedy areas will be replanted with appropriate species for this region.



The estimated cost for Design Pollution Prevention BMPs is \$240,000.

5. Proposed Permanent Treatment BMPs to be used on the Project

Treatment BMP Strategy, Checklist T-1

Targeted Design Constituents are nitrogen, total copper, total lead, total zinc, and general metal. It has not yet been determined the percent of the WQV that will be treated. The primary goal of this project is to address sources of sediment in order to diminish the amount of pollutants in waters to be treated as well as waters exceeding the treatment BMP capability. The Treatment BMP strategy is to use plants and permeable surfaces to allow water and fine particulates to infiltrate the ground surface.

The project is required to consider the proposed treatment BMPs per the District Directive-92 and the Corridor Stormwater Management Studies (Corridor Studies) Route 210 (PM 25.1 to PM 52.2), March 2010.

Biofiltration Swales/Strips, Checklist T-1, Parts 1 and 2

Biofiltration Swales/Strips may be incorporated into the project. It is anticipated that the implementation of eight Biofiltration Swales/Strips will be feasible.

The location of Biofiltration Swales and Strips are recommended by the corridor study at PM 40.56, PM 41.33, PM 41.37, PM 41.58, PM 41.63, PM 41.69, PM 41.78, PM 41.80, and total area will be designed and calculated during the PA/ED and PS&E phases of project design. Design Storm Flow and Water Quality Flow will be calculated during the PA/ED phase of project design. Depth of flow and velocities at Design Storm and at Water Quality Flow will be determined during the PA/ED phase of project design.

Funding has been allocated to allow for the implementation of this device.

Dry Weather Diversion, Checklist T-1, Parts 1 and 3

Dry Weather flows are not anticipated to be persistent within the project limits. Therefore no Dry Weather Diversions are proposed to be incorporated into project.

Infiltration Devices – Checklist T-1, Parts 1 and 4

The feasibility of an infiltration device is evaluated by the Corridor Stormwater Management Study at PM 41.60.

The outcome of the evaluations will not change the fact that implementing such treatment BMP device will jeopardize the viability of this landscape project due to type of work and funding limitation. Thus, infiltration devices will not be feasible in this project.



Detention Devices, Checklist T-1, Parts 1 and 5

Detention devices are not recommended by the corridor study. Thus, device is not feasible, and will not be implemented in the project.

Gross Solids Removal Devices (GSRDs), Checklist T-1, Parts 1 and 6

GSRD is recommended by the Corridor Study at PM 41.33. The outcome of the evaluations will not change the fact that implementing such treatment BMP device will jeopardise the viability of this landscape project due to type of work and funding limitation. Thus, GSRD will not be feasible in this project.

Traction Sand Traps, Checklist T-1, Parts 1 and 7

This project is not located in an area where traction sand is applied more than twice a year and therefore Traction Sand Traps will not be feasible and will not be implemented in this project.

Media Filters, Checklist T-1, Parts 1 and 8

Detention devices are not recommended by the corridor study. Thus, device is not feasible, and will not be implemented in the project.

Multi-Chambered Treatment Trains (MCTTs), Checklist T-1, Parts 1 and 9

Locations for MCTTs cannot be located to serve a “critical source area”, therefore MCTTs are not feasible and are not proposed to be implemented on this project.

Wet Basins, Checklist T-1, Parts 1 and 10

A permanent water source for Wet Basins is not available; therefore Wet Basins will not be feasible and are not proposed to be implemented on this project.

The estimated cost for Permanent Treatment BMPs is \$240,000.

6. Proposed Temporary Construction Site BMPs to be used on Project

The project is in Rainfall Area 4. Dewatering will not be needed. Incorporate comments from construction as of 7/18/2011. Following Appendix C of the Storm Water Quality Handbooks Project Planning and Design Guide (PPDG) for strategy selection, potential lump sum and bid items that will be considered in the PS&E package may include Materials Handling BMPs, Temporary Drainage Inlet Protection and Wind Erosion Control. Per Appendix F of the PPDG, construction site BMPs are estimated at \$62,000.

On July 18, 2011, Aythem Al-Saleh, District Construction Storm Water Coordinator agreed to the temporary construction site BMP strategy used for the scope of work of this project.



7. Maintenance BMPs (Drain Inlet Stenciling)

All work will be within the right of way where no pedestrian activity is allowed; therefore drain inlet stenciling will not be appropriate and is not included in this project.

Required Attachments

- Vicinity Map
- Evaluation Documentation Form (EDF)
- Risk Level Determination document

Supplemental Attachments

- ⇒ Checklist SW-1, Site Data Sources
- ⇒ Checklist SW-2, Storm Water Quality Issues Summary
- ⇒ Checklist SW-3, Measures for Avoiding or Reducing Potential Storm Water BMPs
- ⇒ Checklists DPP-1, Parts 1 and 3-5
- ⇒ Checklists T-1, Parts 1, 2, 4, 5, 6, 8, 9, 10



Evaluation Documentation Form

DATE: 06/01/2011_____

Project ID (or EA): 0700021033_____

NO.	CRITERIA	YES ✓	NO ✓	SUPPLEMENTAL INFORMATION FOR EVALUATION
1.	Begin Project Evaluation regarding requirement for consideration of Treatment BMPs	✓		See Figure 4-1, Project Evaluation Process for Consideration of Permanent Treatment BMPs. Go to 2
2.	Is this an emergency project?		✓	If Yes , go to 10. If No , continue to 3.
3.	Have TMDLs or other Pollution Control Requirements been established for surface waters within the project limits? Information provided in the water quality assessment or equivalent document.	✓		If Yes , contact the District/Regional NPDES Coordinator to discuss the Department's obligations under the TMDL (if Applicable) or Pollution Control Requirements, go to 9 or 4. <i>WJH S.P.</i> (Dist./Reg. SW Coordinator Initials) If No , continue to 4.
4.	Is the project located within an area of a local MS4 Permittee?			If Yes , (<i>Los Angeles</i>), go to 5. If No , document in SWDR go to 5.
5.	Is the project directly or indirectly discharging to surface waters?			If Yes , continue to 6. If No , go to 10.
6.	Is it a new facility or major reconstruction?			If Yes , continue to 8. If No , go to 7.
7.	Will there be a change in line/grade or hydraulic capacity?			If Yes , continue to 8. If No , go to 10.
8.	Does the project result in a <u>net increase of one acre or more of new impervious surface</u> ?			If Yes , continue to 9. If No , go to 10. <u>.2 ac (Net Increase New Impervious Surface)</u>
9.	Project is required to consider approved Treatment BMPs.	✓		See Sections 2.4 and either Section 5.5 or 6.5 for BMP Evaluation and Selection Process. Complete Checklist T-1 in this Appendix E.
10.	Project is not required to consider Treatment BMPs. _____(Dist./Reg. Design SW Coord. Initials) _____(Project Engineer Initials) _____(Date)			Document for Project Files by completing this form, and attaching it to the SWDR.

See Figure 4-1, Project Evaluation Process for Consideration of Permanent Treatment BMPs



Storm Water Checklist SW-1

Checklist SW-1, Site Data Sources

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210
 PM : 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

Information for the following data categories should be obtained, reviewed and referenced as necessary throughout the project planning phase. Collect any available documents pertaining to the category and list them and reference your data source. For specific examples of documents within these categories, refer to Section 5.5 of this document. Example categories have been listed below; add additional categories, as needed. Summarize pertinent information in Section 2 of the SWDR.

DATA CATEGORY/SOURCES	Date
Topographic	
• topographic base maps	2008
• site visits	2010-2011
•	
Hydraulic	
• District 7 Outfall inventory	2009
• http://10.56.3.22/website/weboutfall/LAOutfallSearch.asp	
• Water Quality Planning Tool	2009
• http://www.stormwater.water-programs.com	
Soils	
• LA County Hydrology Map	2009
• http://www.ladpw.org/wrd/Publication/engineering/2006_Hydrology_Manual/Appendix-B.pdf	
•	
Climatic	
• Sunset Western Gardens	2009
•	
•	
Water Quality	
• Office of Water Programs Water Quality Planning Tool	2010
• http://www.water-programs.com/wqpt.htm	
•	
Other Data Categories	
•	
•	



Storm Water Checklist SW-2

Checklist SW-2, Storm Water Quality Issues Summary

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210
 PM : 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

The following questions provide a guide to collecting critical information relevant to project stormwater quality issues. Complete responses to applicable questions, consulting other Caltrans functional units (Environmental, Landscape Architecture, Maintenance, etc.) and the District/Regional Storm Water Coordinator as necessary. Summarize pertinent responses in Section 2 of the SWDR.

- | | | |
|--|--|--|
| 1. Determine the receiving waters that may be affected by the project throughout the project life cycle (i.e., construction, maintenance and operation). | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 2. For the project limits, list the 303(d) impaired receiving water bodies and their constituents of concern. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 3. Determine if there are any municipal or domestic water supply reservoirs or groundwater percolation facilities within the project limits. Consider appropriate spill contamination and spill prevention control measures for these new areas. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 4. Determine the RWQCB special requirements, including TMDLs, effluent limits, etc. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 5. Determine regulatory agencies seasonal construction and construction exclusion dates or restrictions required by federal, state, or local agencies. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 6. Determine if a 401 certification will be required. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 7. List rainy season dates. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 8. Determine the general climate of the project area. Identify annual rainfall and rainfall intensity curves. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 9. If considering Treatment BMPs, determine the soil classification, permeability, erodibility, and depth to groundwater. | <input type="checkbox"/> Complete | <input checked="" type="checkbox"/> NA |
| 10. Determine contaminated soils within the project area. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 11. Determine the total disturbed soil area of the project. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 12. Describe the topography of the project site. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 13. List any areas outside of the Caltrans right-of-way that will be included in the project (e.g. contractor's staging yard, work from barges, easements for staging, etc.). | <input type="checkbox"/> Complete | <input checked="" type="checkbox"/> NA |
| 14. Determine if additional right-of-way acquisition or easements and right-of-entry will be required for design, construction and maintenance of BMPs. If so, how much? | <input type="checkbox"/> Complete | <input checked="" type="checkbox"/> NA |
| 15. Determine if a right-of-way certification is required. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 16. Determine the estimated unit costs for right-of-way should it be needed for Treatment BMPs, stabilized conveyance systems, lay-back slopes, or interception ditches. | <input type="checkbox"/> Complete | <input checked="" type="checkbox"/> NA |
| 17. Determine if project area has any slope stabilization concerns. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 18. Describe the local land use within the project area and adjacent areas. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |
| 19. Evaluate the presence of dry weather flow. | <input checked="" type="checkbox"/> Complete | <input type="checkbox"/> NA |



Checklist SW-3, Measures for Avoiding or Reducing Potential Storm Water Impacts

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210
 PM : 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

The PE must confer with other functional units, such as Landscape Architecture, Hydraulics, Environmental, Materials, Construction and Maintenance, as needed to assess these issues. Summarize pertinent responses in Section 2 of the SWDR.

Options for avoiding or reducing potential impacts during project planning include the following:

1. Can the project be relocated or realigned to avoid/reduce impacts to receiving waters or to increase the preservation of critical (or problematic) areas such as floodplains, steep slopes, wetlands, and areas with erosive or unstable soil conditions? ☐ Yes ☐ No ☒ NA
2. Can structures and bridges be designed or located to reduce work in live streams and minimize construction impacts? ☐ Yes ☐ No ☒ NA
3. Can any of the following methods be utilized to minimize erosion from slopes:
 - a. Disturbing existing slopes only when necessary? ☒ Yes ☐ No ☐ NA
 - b. Minimizing cut and fill areas to reduce slope lengths? ☐ Yes ☐ No ☒ NA
 - c. Incorporating retaining walls to reduce steepness of slopes or to shorten slopes? ☐ Yes ☐ No ☒ NA
 - d. Acquiring right-of-way easements (such as grading easements) to reduce steepness of slopes? ☐ Yes ☐ No ☒ NA
 - e. Avoiding soils or formations that will be particularly difficult to re-stabilize? ☐ Yes ☒ No ☐ NA
 - f. Providing cut and fill slopes flat enough to allow re-vegetation and limit erosion to pre-construction rates? ☐ Yes ☐ No ☒ NA
 - g. Providing benches or terraces on high cut and fill slopes to reduce concentration of flows? ☐ Yes ☐ No ☒ NA
 - h. Rounding and shaping slopes to reduce concentrated flow? ☐ Yes ☐ No ☒ NA
 - i. Collecting concentrated flows in stabilized drains and channels? ☒ Yes ☐ No ☐ NA
4. Does the project design allow for the ease of maintaining all BMPs? ☒ Yes ☐ No
5. Can the project be scheduled or phased to minimize soil-disturbing work during the rainy season? ☒ Yes ☐ No
6. Can permanent storm water pollution controls such as paved slopes, vegetated slopes, basins, and conveyance systems be installed early in the construction process to provide additional protection and to possibly utilize them in addressing construction storm water impacts? ☐ Yes ☐ No ☒ NA



Design Pollution Prevention BMPs

Checklist DPP-1, Part 1

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210

PM: 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

Consideration of Design Pollution Prevention BMPs

Consideration of Downstream Effects Related to Potentially Increased Flow [to streams or channels]

Will project increase velocity or volume of downstream flow? ☐ Yes ☒ No ☐ NA

Will the project discharge to unlined channels? ☐ Yes ☒ No ☐ NA

Will project increase potential sediment load of downstream flow? ☐ Yes ☒ No ☐ NA

Will project encroach, cross, realign, or cause other hydraulic changes to a stream that may affect downstream channel stability? ☐ Yes ☒ No ☐ NA

If Yes was answered to any of the above questions, consider **Downstream Effects Related to Potentially Increased Flow**, complete the DPP-1, Part 2 checklist.

Slope/Surface Protection Systems

Will project create new slopes or modify existing slopes? ☒ Yes ☐ No ☐ NA

If Yes was answered to the above question, consider **Slope/Surface Protection Systems**, complete the DPP-1, Part 3 checklist.

Concentrated Flow Conveyance Systems

Will the project create or modify ditches, dikes, berms, or swales? ☒ Yes ☐ No ☐ NA

Will project create new slopes or modify existing slopes? ☒ Yes ☐ No ☐ NA

Will it be necessary to direct or intercept surface runoff? ☐ Yes ☒ No ☐ NA

Will cross drains be modified? ☐ Yes ☒ No ☐ NA

If Yes was answered to any of the above questions, consider **Concentrated Flow Conveyance Systems**; complete the DPP-1, Part 4 checklist.

Preservation of Existing Vegetation

It is the goal of the Storm Water Program to maximize the protection of desirable existing vegetation to provide erosion and sediment control benefits on all projects. ☒ Complete

Consider **Preservation of Existing Vegetation**, complete the DPP-1, Part 5 checklist.



Design Pollution Prevention BMPs

Checklist DPP-1, Part 3

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210
 PM : 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

Slope / Surface Protection Systems

1. What are the proposed areas of cut and fill? (attach plan or map) ☒ Complete
2. Were benches or terraces provided on high cut and fill slopes to reduce concentration of flows? ☐ Yes ☒ No
3. Were slopes rounded and/or shaped to reduce concentrated flow? ☐ Yes ☒ No
4. Were concentrated flows collected in stabilized drains or channels? ☒ Yes ☐ No
5. Are new or disturbed slopes > 4:1 horizontal:vertical (h:v)? ☒ Yes ☐ No

If Yes, District Landscape Architect must prepare or approve an erosion control plan, at the District's discretion.

6. Are new or disturbed slopes > 2:1 (h:v)? ☐ Yes ☒ No

If Yes, Geotechnical Services must prepare a Geotechnical Design Report, and the District Landscape Architect should prepare or approve an erosion control plan. Concurrence must be obtained from the District Maintenance Storm Water Coordinator for slopes steeper than 2:1 (h:v).

7. Estimate the net new impervious area that will result from this project. .2 acres ☒ Complete

VEGETATED SURFACES

1. Identify existing vegetation. ☒ Complete
2. Evaluate site to determine soil types, appropriate vegetation and planting strategies. ☒ Complete
3. How long will it take for permanent vegetation to establish? ☐ Complete
4. Minimize overland and concentrated flow depths and velocities. ☒ Complete

HARD SURFACES

1. Are hard surfaces required? ☒ Yes ☐ No

If Yes, document purpose (safety, maintenance, soil stabilization, etc.), types, and general locations of the installations. ☒ Complete

Review appropriate SSPs for Vegetated Surface and Hard Surface Protection Systems. ☒ Complete



Checklist DPP-1, Part 4

Design Pollution Prevention BMPs

Checklist DPP-1, Part 4

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210
PM: 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

Concentrated Flow Conveyance Systems

Ditches, Berms, Dikes and Swales

1. Consider Ditches, Berms, Dikes, and Swales as per Topics 813, 834.3, and 835, and Chapter 860 of the HDM. ☒ Complete
2. Evaluate risks due to erosion, overtopping, flow backups or washout. ☒ Complete
3. Consider outlet protection where localized scour is anticipated. ☒ Complete
4. Examine the site for run-on from off-site sources. ☒ Complete
5. Consider channel lining when velocities exceed scour velocity for soil. ☒ Complete

Overside Drains

1. Consider downdrains, as per Index 834.4 of the HDM. ☒ Complete
2. Consider paved spillways for side slopes flatter than 4:1 h:v. ☒ Complete

Flared Culvert End Sections

1. Consider flared end sections on culvert inlets and outlets as per Chapter 827 of the HDM. ☒ Complete

Outlet Protection/Velocity Dissipation Devices

1. Consider outlet protection/velocity dissipation devices at outlets, including cross drains, as per Chapters 827 and 870 of the HDM. ☒ Complete

Review appropriate SSPs for Concentrated Flow Conveyance Systems. ☒ Complete



Design Pollution Prevention BMPs

Checklist DPP-1, Part 5

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210

PM : 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

Preservation of Existing Vegetation

1. Review Preservation of Property, Standard Specifications 16.1.01 and 16-1.02 (Clearing and Grubbing) to reduce clearing and grubbing and maximize preservation of existing vegetation. ☒ Complete
2. Has all vegetation to be retained been coordinated with Environmental, and identified and defined in the contract plans? ☐ Yes ☒ No
3. Have steps been taken to minimize disturbed areas, such as locating temporary roadways to avoid stands of trees and shrubs and to follow existing contours to reduce cutting and filling? ☒ Complete
4. Have impacts to preserved vegetation been considered while work is occurring in disturbed areas? ☒ Yes ☐ No
5. Are all areas to be preserved delineated on the plans? ☐ Yes ☒ No



Treatment BMPs Checklist T-1, Part 1

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210

PM: 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

Consideration of Treatment BMPs

The analysis for the feasibility has been completed under I-210 corridor stormwater management study (PM 25.1 to PM 52.2) on March 2010. This checklist is used for projects that require the consideration of Approved Treatment BMPs, as determined from the process described in Section 5 (Project Treatment Consideration) and the Evaluation Documentation Form (EDF). This checklist will be used to determine which Treatment BMPs should be considered for each watershed and sub-watershed within the project. Supplemental data will be needed to verify siting and design applicability for final incorporation into a project.

Complete this checklist for each phase of the project, when considering Treatment BMPs. Use the responses to the questions as the basis when developing the narrative in Section 5 of the Storm Water Data Report to document that Treatment BMPs have been appropriately considered.

Answer all questions, unless otherwise directed. Questions 14 through 16 should be answered after all subwatershed (drainages) are considered using this checklist.

1. Is the project in a watershed with prescriptive TMDL treatment BMP requirements in an adopted TMDL implementation plan? ☐ Yes ☐ No

If Yes, consult the District/Regional Storm Water Coordinator to determine whether the T-1 checklist should be used to propose alternative BMPs because the prescribed BMPs may not be feasible or other BMPs may be more cost-effective. Special documentation and regulatory response may be necessary.

2. Dry Weather Flow Diversion

- (a) Are dry weather flows generated by Caltrans anticipated to be persistent? ☐ Yes ☐ No
- (b) Is a sanitary sewer located on or near the site? ☐ Yes ☐ No

If Yes to both 2 (a) and (b), continue to (c). If No to either, skip to question 3.

- (c) Is connection to the sanitary sewer possible without extraordinary plumbing, features or construction practices? ☐ Yes ☐ No
- (d) Is the domestic wastewater treatment authority willing to accept flow? ☐ Yes ☐ No

If Yes was answered to all of these questions consider **Dry Weather Flow Diversion**, complete and attach **Part 3** of this checklist

3. Is the receiving water on the 303(d) list for litter/trash or has a TMDL been issued for litter/trash? ☐ Yes ☐ No



If Yes, consider **Gross Solids Removal Devices (GSRDs)**, complete and attach **Part 6** of this checklist. Note: Infiltration Devices, Detention Devices, Media Filters, MCTTs, and Wet Basins also can capture litter. Before considering GSRDs for stand-alone installation or in sequence with other BMPs, consult with District/Regional NPDES Storm Water Coordinator to determine whether Infiltration Devices, Detention Devices, Media Filters, MCTTs, and Wet Basins should be considered instead of GSRDs to meet litter/trash TMDL.

4. Is project located in an area (e.g., mountain regions) where traction sand is applied more than twice a year? ☐ Yes ☐ No

If Yes, consider **Traction Sand Traps**, complete and attach **Part 7** of this checklist.

5. Maximizing Biofiltration Strips and Swales

Objectives:

- 1) Quantify infiltration from biofiltration alone
- 2) Identify highly infiltrating biofiltration (i.e. > 90%) and skip further BMP consideration.
- 3) Identify whether amendments can substantially improve infiltration.

- (a) Have biofiltration strips and swales been designed for runoff from all project areas, including sheet flow and concentrated flow conveyance? If no, document justification in Section 5 of the SWDR. ☐ Yes ☐ No

(b) Based on site conditions, estimate what percentage of the WQV¹ can be infiltrated. When calculating the WQV, use a 12-hour drawdown for Type A and B soils, a 24-hour drawdown for Type C soils, and a 48-hour drawdown for Type D soils.

- ☐ < 20%
☐ 20 % - 50%
☐ 50% - 90%
☒ > 90%
- ☐ Complete

- (c) Is infiltration greater than 90 percent? If Yes, skip to question 13. ☐ Yes ☐ No

¹ A complete methodology for determining WQV infiltration is available at:
<http://www.dot.ca.gov/hq/oppd/stormwtr/index.htm>

Checklist T-1, Part 1

- (d) Can the infiltration ranking in question 5(b) above be increased by using soil amendments? Use the 'drain time' associated with the amended soil (the 12-hour WQV for Type A and B soils, the 24-hour WQV for Type C soils²).

☐ Yes ☐ No

If Yes, consider including soil amendments; increasing the infiltration ranking allows more flexibility in the selection of BMPs (strips and swales will show performance comparable to other BMPs). Record the new infiltration estimate below:

- ___ < 20% (skip to 6)
___ 20 % - 50% (skip to 6)
___ 50% - 90% (skip to 6)
___ >90%

☐ Complete

- (e) Is infiltration greater than 90 percent? If Yes, skip to question 13.

☐ Yes ☐ No

6. Biofiltration in Rural Areas

Is the project in a rural area (outside of urban areas that is covered under an NDPES Municipal Stormwater Permit³). If Yes proceed to question 13.

☐ Yes ☐ No

7. Estimating Infiltration for BMP Combinations

Objectives:

- 1) Identify high-infiltration biofiltration or biofiltration and infiltration BMP combinations and skip further BMP consideration.
- 2) If high infiltration is infeasible, then identify the infiltration level of all feasible BMP combinations for use in the subsequent BMP selection matrices

- (a) Has concentrated infiltration (i.e., via earthen basins or earthen filters) been prohibited? Consult your District/Regional Storm Water Coordinator and/or environmental documents.

☐ Yes ☐ No

If No proceed to 7 (b); if Yes skip to question 8 and do not consider earthen basin-type BMPs

² Type D soils are not expected where amendments are incorporated

³ See pages 39 and 40 of the Fact Sheets for the CGP.

http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_factsheet.pdf



Checklist T-1, Part 1

- (b) Assess infiltration of an infiltration BMP that is used in conjunction with biofiltration. Include infiltration losses from biofiltration, if biofiltration is feasible.

☐ Complete

(use 24 hr WQV)

___ < 20% (do not consider this BMP combination)

___ 20% - 50%

___ 50% - 90%

___ > 90%

Is at least 90 percent infiltration estimated? If Yes proceed to 13. If No proceed to 7(c).

☐ Yes

☐ No

- (c) Assess infiltration of biofiltration with combinations with remaining approved earthen BMPs using water quality volumes based on the drain time of those BMPs. This assessment will be used in subsequent BMP selection matrices.

Earthen Detention Basin
(use 48 hr WQV)

___ < 20%

___ 20% - 50%

___ > 50%

Earthen Austin SF
(use 48 hr WQV)

___ < 20%

___ 20% - 50%

___ > 50%

☐ Complete

Continue to Question 8

8. Identifying BMPs based on the Target Design Constituents

- (a) Does the project discharge to a water body that has been placed on the 303-d list or has had a TMDL adopted? If "No," use Matrix A to select BMPs, consider designing to treat 100% of the WQV, then skip to question 12.

☐ Yes

☐ No

If Yes, is the identified pollutant(s) considered a Targeted Design Constituent (TDC) (check all that apply below)?

☐ sediments

☐ copper (dissolved or total)

☐ phosphorus

☐ lead (dissolved or total)

☐ nitrogen

☐ zinc (dissolved or total)

☐ general metals (dissolved or total)¹

- (b) Treating Sediment. Is sediment a TDC? If Yes, use Matrix A to select BMPs, then skip to question 12. Otherwise, proceed to question 9.

☐ Yes

☐ No

¹ General metals include cadmium, nickel, chromium, and other trace metals. Note that selenium and arsenic are not metals. Mercury is a metal, but is considered later during BMP selection, under Question 12 below.



Checklist T-1, Part 1

BMP Selection Matrix A: General Purpose Pollutant Removal			
<p>Consider approaches to treat the remaining WQV with combinations of the BMPs in this table. The PE should select at least one BMP for the project; preference is for Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each Tier, BMP selection will be determined by the site-specific determination of feasibility (Section 2.4.2.1). BMPs are chosen based on the infiltration category determined in question 7. BMPs in other categories should be ignored.</p>			
	BMP ranking for infiltration category:		
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	Strip: HRT > 5 Austin filter (concrete) Austin filter (earthen) Delaware filter MCTT Wet basin	Austin filter (earthen) Detention (unlined) Infiltration basins* Infiltration trenches* Biofiltration Strip	Austin filter (earthen) Detention (unlined) Infiltration basins* Infiltration trenches* Biofiltration Strip Biofiltration Swale
Tier 2	Strip: HRT < 5 Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Swale MCTT Wet basin	Austin filter (concrete) Delaware filter MCTT Wet basin
<p>HRT = hydraulic residence time (min)</p> <p>*Infiltration BMPs that infiltrate the water quality volume were considered previously, so only undersized infiltration BMPs or hybrid designs are considered where infiltration is less than 90% of the water quality volume.</p>			

9. Treating both Metals and Nutrients.

Is copper, lead, zinc, or general metals *AND* nitrogen or phosphorous a TDC? If Yes use Matrix D to select BMPs, then skip to question 12. Otherwise, proceed to question 10.

☐ Yes ☐ No

10. Treating Only Metals.

Are copper, lead, zinc, or general metals listed TDCs? If Yes use Matrix B below to select BMPs, and skip to question 12. Otherwise, proceed to question 11.

☐ Yes ☐ No



BMP Selection Matrix B: Any metal is the TDC, but not nitrogen or phosphorous			
<p>Consider approaches to treat the remaining WQV with combinations of the BMPs in this table. The PE should select at least one BMP for the project; preference is for Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each Tier, BMP selection will be determined by the site-specific determination of feasibility (Section 2.4.2.1). BMPs are chosen based on the infiltration category determined in question 7. BMPs in other categories should be ignored.</p>			
	BMP ranking for infiltration category:		
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	MCTT Wet basin Austin filter (earthen) Austin filter (concrete) Delaware filter	Austin filter (earthen) Detention (unlined) Infiltration basins* Infiltration trenches* MCTT Wet basin	Austin filter (earthen) Detention (unlined) Infiltration basins* Infiltration trenches* MCTT Biofiltration Strip Biofiltration Swale Wet basin
Tier 2	Strip: HRT > 5 Strip: HRT < 5 Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Strip Biofiltration Swale	Austin filter (concrete) Delaware filter
HRT = hydraulic residence time (min) *Infiltration BMPs that infiltrate the water quality volume were considered previously, so only undersized infiltration BMPs or hybrid designs are considered where infiltration is less than 90% of the water quality volume.			

11. Treating Only Nutrients.

Are nitrogen and/or phosphorus listed TDCs? If "Yes," use Matrix C to select BMPs. If "No", please check your answer to 8(a). At this point one of the matrices should have been used for BMP selection for the TDC in question, unless no BMPs are feasible. ☐ Yes ☐ No



BMP Selection Matrix C: Phosphorous and / or nitrogen is the TDC, but no metals are the TDC			
<p>Consider approaches to treat the remaining WQV with combinations of the BMPs in this table. The PE should select at least one BMP for the project; preference is for Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each Tier, BMP selection will be determined by the site-specific determination of feasibility (Section 2.4.2.1). BMPs are chosen based on the infiltration category determined in question 7. BMPs in other categories should be ignored.</p>			
	BMP ranking for infiltration category:		
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	Austin filter (earthen) Austin filter (concrete) Delaware filter**	Austin filter (earthen) Detention (unlined) Infiltration basins* Infiltration trenches*	Austin filter (earthen) Detention (unlined) Infiltration basins* Infiltration trenches* Biofiltration Strip Biofiltration Swale
Tier 2	Wet basin Biofiltration Strip Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Strip Biofiltration Swale Wet basin	Austin filter (concrete) Delaware filter Wet basin
<p>* Infiltration BMPs that infiltrate the water quality volume were considered previously, so only undersized infiltration BMPs or hybrid designs are considered where infiltration is less than 90% of the water quality volume.</p>			
<p>** Delaware filters would be ranked in Tier 2 if the TDC is nitrogen only, as opposed to phosphorous only or both nitrogen and phosphorous.</p>			



BMP Selection Matrix D: Any metal, plus phosphorous and / or nitrogen are the TDCs			
<p>Consider approaches to treat the remaining WQV with combinations of the BMPs in this table. The PE should select at least one BMP for the project; preference is for Tier 1 BMPs, followed by Tier 2 BMPs when Tier 1 BMPs are not feasible. Within each Tier, BMP selection will be determined by the site-specific determination of feasibility (Section 2.4.2.1). BMPs are chosen based on the infiltration category determined in question 7. BMPs in other categories should be ignored.</p>			
	BMP ranking for infiltration category:		
	Infiltration < 20%	Infiltration 20% - 50%	Infiltration > 50%
Tier 1	Wet basin* Austin filter (earthen) Austin filter (concrete) Delaware filter**	Wet basin* Austin filter (earthen) Detention (unlined) Infiltration basins*** Infiltration trenches***	Wet basin* Austin filter (earthen) Detention (unlined) Infiltration basins*** Infiltration trenches*** Biofiltration Strip Biofiltration Swale
Tier 2	Biofiltration Strip Biofiltration Swale Detention (unlined)	Austin filter (concrete) Delaware filter Biofiltration Strip Biofiltration Swale	Austin filter (concrete) Delaware filter
* The wet basin should only be considered for phosphorus			
** In cases where earthen BMPs can infiltrate, Delaware filters are ranked in Tier 2 if the TDC is nitrogen only, but they are Tier 1 for phosphorous only or both nitrogen and phosphorous.			
*** Infiltration BMPs that infiltrate the water quality volume were considered previously, so only undersized infiltration BMPs or hybrid designs are considered where infiltration is less than 90% of the water quality volume.			



Checklist T-1, Part 1

12. Does the project discharge to a waterbody that has been placed on the 303-d list or has had a TMDL adopted for mercury or low dissolved oxygen? ☐ Yes ☐ No
If Yes contact the District/Regional NPDES Storm Water Coordinator to determine if standing water in a Delaware filter, wet basin, or MCTT would be a risk to downstream water quality.
13. After completing the above, identify and attach the checklists shown below for every Treatment BMP under consideration. (use one checklist every time the BMP is considered for a different drainage within the project) ☒ Complete
- ☐ Biofiltration Strips and Biofiltration Swales: Checklist T-1, Part 2
 - ☐ Dry Weather Diversion: Checklist T-1, Part 3
 - ☐ Infiltration Devices: Checklist T-1, Part 4
 - ☐ Detention Devices: Checklist T-1, Part 5
 - ☐ GSRDs: Checklist T-1, Part 6
 - ☐ Traction Sand Traps: Checklist T-1, Part 7
 - ☐ Media Filter [Austin Sand Filter and Delaware Filter]: Checklist T-1, Part 8
 - ☐ Multi-Chambered Treatment Train: Checklist T-1, Part 9
 - ☐ Wet Basins: Checklist T-1, Part 10
14. Estimate what percentage of WQV (or WQF, depending upon the Treatment BMP selected) will be treated by the preferred Treatment BMP(s): 40 % ☐ Complete
- (a) Have Treatment BMPs been considered for use in parallel or series to increase this percentage? ☐ Yes ☐ No
15. Estimate what percentage of the net WQV (for all new impervious surfaces within the project) that will be treated by the preferred treatment BMP(s): 40 % ☐ Complete
16. Prepare cost estimate, including right-of-way, and site specific determination of feasibility (Section 2.4.2.1) for selected Treatment BMPs and include as supplemental information for SWDR approval. ☐ Complete



Treatment BMPs Checklist T-1, Part 2

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210
PM : 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

Biofiltration Swales / Biofiltration Strips

The analysis for the feasibility has been completed under I-210 corridor stormwater management study (PM 25.1 to PM 52.2) on March 2010.

Feasibility

1. Do the climate and site conditions allow vegetation to be established? ☐ Yes ☐ No
2. Are flow velocities from a peak drainage facility design event < 4 fps (i.e. low enough to prevent scour of the vegetated biofiltration swale as per HDM Table 873.3E)? ☐ Yes ☐ No
If "No" to either question above, Biofiltration Swales and Biofiltration Strips are not feasible.
3. Are Biofiltration Swales proposed at sites where known contaminated soils or groundwater plumes exist? ☐ Yes ☐ No
If "Yes", consult with District/Regional NPDES Coordinator about how to proceed.
4. Does adequate area exist within the right-of-way to place Biofiltration device(s)? ☐ Yes ☐ No
If "Yes", continue to Design Elements section. If "No", continue to Question 5.
5. If adequate area does not exist within right-of-way, can suitable, additional right-of-way be acquired to site Biofiltration devices and how much right-of-way would be needed to treat WQF? _____ acres ☐ Yes ☐ No
If "Yes", continue to Design Elements section. If "No", continue to Question 6.
6. If adequate area cannot be obtained, document in Section 5 of the SWDR that the inability to obtain adequate area prevents the incorporation of these Treatment BMPs into the project. ☐ Complete

Design Elements

* **Required** Design Element – A "Yes" response to these questions is required to further the consideration of this BMP into the project design. Document a "No" response in Section 5 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

** **Recommended** Design Element – A "Yes" response is preferred for these questions, but not required for incorporation into a project design.

1. Has the District Landscape Architect provided vegetation mixes appropriate for climate and location? * ☐ Yes ☐ No



Checklist T-1, Part 2

- | | | |
|---|---|-----------------------------|
| 2. Can the biofiltration swale be designed as a conveyance system under any expected flows > the WQF event, as per HDM Chapter 800? * (e.g. freeboard, minimum slope, etc.) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Can the biofiltration swale be designed as a water quality treatment device under the WQF while meeting the required HRT, depth, and velocity criteria? (Reference Appendix B, Section B.2.3.1)* | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Is the maximum length of a biofiltration strip ≤ 300 ft? * | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. Has the minimum width (in the direction of flow) of the invert of the biofiltration swale received the concurrence of Maintenance? * | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 6. Can biofiltration swales be located in natural or low cut sections to reduce maintenance problems caused by animals burrowing through the berm of the swale? ** | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 7. Is the biofiltration strip sized as long as possible in the direction of flow? ** | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 8. Have Biofiltration Systems been considered for locations upstream of other Treatment BMPs, as part of a treatment train? ** | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |



Treatment BMPs

Checklist T-1, Part 3

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210
 PM : 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

Dry Weather Flow Diversion The analysis for the feasibility has been completed under I-210 corridor stormwater management study (PM 25.1 to PM 52.2) on March 2010.

Feasibility

1. Is a Dry-Weather Flow Diversion acceptable to a Publicly Owned Treatment Works (POTW)? ☐ Yes ☐ No
2. Would a connection require ordinary (i.e., not extraordinary) plumbing, features or construction methods to implement? ☐ Yes ☐ No
 If "No" to either question above, Dry Weather Flow Diversion is not feasible.
3. Does adequate area exist within the right-of-way to place Dry Weather Flow Diversion devices? ☐ Yes ☐ No
 If "Yes", continue to Design Elements sections. If "No", continue to Question 4.
4. If adequate area does not exist within right-of-way, can suitable, additional right-of-way be acquired to site Dry Weather Flow Diversion devices and how much right-of-way would be needed? _____ (acres) ☐ Yes ☐ No
 If "Yes", continue to the Design Elements section.
 If "No", continue to Question 5.
5. If adequate area cannot be obtained, document in Section 5 of the SWDR that the inability to obtain adequate area prevents the incorporation of this Treatment BMP into the project. ☐ Complete

Design Elements

*** Required Design Element** – A "Yes" response to these questions is required to further the consideration of this BMP into the project design. Document a "No" response in Section 5 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

**** Recommended Design Element** – A "Yes" response is preferred for these questions, but not required for incorporation into a project design.

1. Does the existing sanitary sewer pipeline have adequate capacity to accept project dry weather flows, or can an upgrade be implemented to handle the anticipated dry weather flows within the project's budget and objectives? * ☐ Yes ☐ No
2. Can the connection be designed to allow for Maintenance vehicle access? * ☐ Yes ☐ No
3. Can gate, weir, or valve be designed to stop diversion during storm events? * ☐ Yes ☐ No
4. Can the inlet be designed to reduce chances of clogging the diversion pipe or channel? * ☐ Yes ☐ No
5. Can a back flow prevention device be designed to prevent sanitary sewage from entering storm drain? * ☐ Yes ☐ No



Treatment BMPs Checklist T-1, Part 4

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210
PM: 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

Infiltration Devices

The analysis for the feasibility has been completed under I-210 corridor stormwater management study (PM 25.1 to PM 52.2) on March 2010.

Feasibility

1. Does local Basin Plan or other local ordinance provide influent limits on quality of water that can be infiltrated, and would infiltration pose a threat to groundwater quality? ☐ Yes ☐ No
 2. Does infiltration at the site compromise the integrity of any slopes in the area? ☐ Yes ☐ No
 3. Per survey data or U.S. Geological Survey (USGS) Quad Map, are existing slopes at the proposed device site >15%? ☐ Yes ☐ No
 4. At the invert, does the soil type classify as NRCS Hydrologic Soil Group (HSG) D, or does the soil have an infiltration rate < 0.5 inches/hr? ☐ Yes ☐ No
 5. Is site located over a previously identified contaminated groundwater plume? ☐ Yes ☐ No
- If "Yes" to any question above, Infiltration Devices are not feasible; stop here and consider other approved Treatment BMPs.
6. (a) Does site have groundwater within 10 ft of basin invert? ☐ Yes ☐ No
 - (b) Does site investigation indicate that the infiltration rate is significantly greater than 2.5 inches/hr? ☐ Yes ☐ No

If "Yes" to either part of Question 6, the RWQCB must be consulted, and the RWQCB must conclude that the groundwater quality will not be compromised, before approving the site for infiltration.

7. Does adequate area exist within the right-of-way to place Infiltration Device(s)? ☐ Yes ☐ No
If "Yes", continue to Design Elements sections. If "No", continue to Question 8.
8. If adequate area does not exist within right-of-way, can suitable, additional right-of-way be acquired to site Infiltration Devices and how much right-of-way would be needed to treat WQV? _____ acres ☐ Yes ☐ No
If Yes, continue to Design Elements section.
If No, continue to Question 9.
9. If adequate area cannot be obtained, document in Section 5 of the SWDR that the inability to obtain adequate area prevents the incorporation of this Treatment BMP into the project. ☐ Complete



Checklist T-1, Part 4

Design Elements – Infiltration Basin

*** Required Design Element** – A “Yes” response to these questions is required to further the consideration of this BMP into the project design. Document a “No” response in Section 5 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

**** Recommended Design Element** – A “Yes” response is preferred for these questions, but not required for incorporation into a project design.

- | | | |
|---|---|--|
| 1. Has a detailed investigation been conducted, including subsurface soil investigation, in-hole conductivity testing and groundwater elevation determination? (This report must be completed for PS&E level design.) * | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Has an overflow spillway with scour protection been provided? * | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 3. Is the Infiltration Basin size sufficient to capture the WQV while maintaining a 40-48 hour drawdown time? (Note: the WQV must be $\geq 4,356 \text{ ft}^3$ [0.1 acre-feet]) * | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 4. Can access be placed to the invert of the Infiltration Basin? * | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 5. Can the Infiltration Basin accommodate the freeboard above the overflow event elevation (reference Appendix B.1.3.1)? * | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 6. Can the Infiltration Basin be designed with interior side slopes no steeper than 4:1 (h:v) (may be 3:1 [h:v] with approval by District Maintenance)? * | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 7. Can vegetation be established in the Infiltration Basin? ** | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 8. Can diversion be designed, constructed, and maintained to bypass flows exceeding the WQV? ** | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 9. Can a gravity-fed Maintenance Drain be placed? ** | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

Design Elements – Infiltration Trench

*** Required Design Element** – (see definition above)

**** Recommended Design Element** – (see definition above)

- | | | |
|--|---|--|
| 1. Has a detailed investigation been conducted, including subsurface soil investigation, in-hole conductivity testing and groundwater elevation determination? (This report must be completed for PS&E level design.) * | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Is the surrounding soil within Hydrologic Soil Groups (HSG) Types A or B? * | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Is the volume of the Infiltration Trench equal to at least the 2.85x the WQV, while maintaining a drawdown time of ≤ 96 hours? It is recommended to use a drawdown time between 40 and 48 hours. (Note: the WQV must be $\geq 4,356 \text{ ft}^3$ [0.1 acre-feet], unless the District/Regional NPDES Storm Water Coordinator will allow a volume between $2,830 \text{ ft}^3$ and $4,356 \text{ ft}^3$ to be considered.) * | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 4. Is the depth of the Infiltration Trench $\leq 13 \text{ ft}$? * | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 5. Can an observation well be placed in the trench? * | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 6. Can access be provided to the Infiltration Trench? * | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 7. Can pretreatment be provided to capture sediment in the runoff (such as using vegetation)? * | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 8. Can flow diversion be designed, constructed, and maintained to bypass flows exceeding the Water Quality event? ** | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 9. Can a perimeter curb or similar device be provided (to limit wheel loads upon the trench)? ** | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |



Treatment BMPs Checklist T-1, Part 5

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210
PM : 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

Detention Devices

The analysis for the feasibility has been completed under I-210 corridor stormwater management study (PM 25.1 to PM 52.2) on March 2010.

Feasibility

1. Is there sufficient head to prevent objectionable backwater conditions in the upstream drainage systems? ☐Yes ☒No

2. 2a) Is the volume of the Detention Device equal to at least the WQV? (Note: the WQV must be $\geq 4,356 \text{ ft}^3$ [0.1 acre-feet]) ☐Yes ☒No

Only answer (b) if the Detention Device is being used also to capture traction sand.

2b) Is the total volume of the Detention Device at least equal to the WQV plus the anticipated volume of traction sand, while maintaining a minimum 12 inch freeboard (1 ft)? ☐Yes ☐No

3. Is basin invert ≥ 10 ft above seasonally high groundwater or can it be designed with an impermeable liner? (Note: If an impermeable liner is used, the seasonally high groundwater elevation must not encroach within 12 inches of the invert.) ☒Yes ☐No

- If No to any question above, then Detention Devices are not feasible.

4. Does adequate area exist within the right-of-way to place Detention Device(s)? ☐Yes ☐No
If Yes, continue to the Design Elements section. If No, continue to Question 5.

5. If adequate area does not exist within right-of-way, can suitable, additional right-of-way be acquired to site Detention Device(s) and how much right-of way would be needed to treat WQV? _____ acres ☐Yes ☐No
If Yes, continue to the Design Elements section. If No, continue to Question 6.

6. If adequate area cannot be obtained, document in Section 5 of the SWDR that the inability to obtain adequate area prevents the incorporation of this Treatment BMP into the project. ☐Complete



Design Elements

*** Required Design Element** – A “Yes” response to these questions is required to further the consideration of this BMP into the project design. Document a “No” response in Section 5 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

**** Recommended Design Element** – A “Yes” response is preferred for these questions, but not required for incorporation into a project design.

1. Has the geotechnical integrity of the site been evaluated to determine potential impacts to surrounding slopes due to incidental infiltration? If incidental infiltration through the invert of an unlined Detention Device is a concern, consider using an impermeable liner. * ☐Yes ☐No
2. Has the location of the Detention Device been evaluated for any effects to the adjacent roadway and subgrade? * ☐Yes ☐No
3. Can a minimum freeboard of 12 inches be provided above the overflow event elevation? * ☐Yes ☐No
4. Is an overflow outlet provided? * ☐Yes ☐No
5. Is the drawdown time of the Detention Device within 24 to 72 hours with 40-hrs the preferred design drawdown time? * ☐Yes ☐No
6. Is the basin outlet designed to minimize clogging (minimum outlet orifice diameter of 0.5 inches)? * ☐Yes ☐No
7. Are the inlet and outlet structures designed to prevent scour and re-suspension of settled materials, and to enhance quiescent conditions? * ☐Yes ☐No
8. Can vegetation be established in an earthen basin at the invert and on the side slopes for erosion control and to minimize re-suspension? Note: Detention Basins may be lined, in which case no vegetation would be required for lined areas. * ☐Yes ☐No
9. Has sufficient access for Maintenance been provided? * ☐Yes ☐No
10. Is the side slope 4:1 (h:v) or flatter for interior slopes? ** ☐Yes ☐No
(Note: Side slopes up to 3:1 (h:v) allowed with approval by District Maintenance.)
11. If significant sediment is expected from nearby slopes, can the Detention Device be designed with additional volume equal to the expected annual loading? ** ☐Yes ☐No
12. Is flow path as long as possible ($\geq 2:1$ length to width ratio at WQV elevation is recommended)? ** ☐Yes ☐No



Treatment BMPs

Checklist T-1, Part 6

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210
 PM : 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

Gross Solids Removal Devices (GSRDs)

The analysis for the feasibility has been completed under I-210 corridor stormwater management study (PM 25.1 to PM 52.2) on March 2010.

Feasibility

1. Is the receiving water body downstream of the tributary area to the proposed GSRD on a 303(d) list or has a TMDL for litter been established? ☒ Yes ☐ No
2. Are the devices sized for flows generated by the peak drainage facility design event or can peak flow be diverted? ☐ Yes ☒ No
3. Are the devices sized to contain gross solids (litter and vegetation) for a period of one year? ☐ Yes ☒ No
4. Is there sufficient access for maintenance and large equipment (vacuum truck)? ☒ Yes ☐ No
 If "No" to any question above, then Gross Solids Removal Devices are not feasible. Note that Biofiltration Systems, Infiltration Devices, Detention Devices, Dry Weather Flow Diversion, MCTT, Media Filters, and Wet Basins may be considered for litter capture, but consult with District/Regional NPDES if proposed to meet a TMDL for litter.
5. Does adequate area exist within the right-of-way to place Gross Solids Removal Devices? ☐ Yes ☐ No
 If "Yes", continue to Design Elements section. If "No", continue to Question 6.
6. If adequate area does not exist within right-of-way, can suitable, additional right-of-way be acquired to site Gross Solids Removal Devices and how much right-of-way would be needed? _____ acres ☐ Yes ☐ No
 If "Yes", continue to Design Elements section. If "No", continue to Question 7.
7. If adequate area cannot be obtained, document in Section 5 of the SWDR that the inability to obtain adequate area prevents the incorporation of this Treatment BMP into the project. ☐ Complete



Design Elements – Linear Radial Device

*** Required Design Element** – A “Yes” response to these questions is required to further the consideration of this BMP into the project design. Document a “No” response in Section 5 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

**** Recommended Design Element** – A “Yes” response is preferred for these questions, but not required for incorporation into a project design.

1. Does sufficient hydraulic head exist to place the Linear Radial GSRD? * ☐ Yes ☐ No
2. Was the litter accumulation rate of 10 ft³/ac/yr (or a different rate recommended by Maintenance) used to size the device? * ☐ Yes ☐ No
3. Were the standard detail sheets used for the layout of the devices? ** ☐ Yes ☐ No
If No, consult with Headquarters Office of Storm Water Management and District/Regional NPDES.
4. Is the maximum depth of the storage within 10 ft of the ground surface, or another depth as required by District Maintenance? * ☐ Yes ☐ No

Design Elements – Inclined Screen

*** Required Design Element** – A “Yes” response to these questions is required to further the consideration of this BMP into the project design. Document a “No” response in Section 5 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

**** Recommended Design Element** – A “Yes” response is preferred for these questions, but not required for incorporation into a project design.

1. Does sufficient hydraulic head exist to place the Inclined Screen GSRD? * ☐ Yes ☐ No
2. Was the litter accumulation rate of 10 ft³/ac/yr (or a different rate recommended by Maintenance) used to size the device? * ☐ Yes ☐ No
3. Were the standard details sheets used for the layout of the devices? ** ☐ Yes ☐ No
If No, consult with Headquarters Office of Storm Water Management and District NPDES.
4. Is the maximum depth of the storage within 10 ft of the ground surface, or another depth as required by District Maintenance? * ☐ Yes ☐ No



Treatment BMPs Checklist T-1, Part 7

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210
PM : 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

Traction Sand Traps

The analysis for the feasibility has been completed under I-210 corridor stormwater management study (PM 25.1 to PM 52.2) on March 2010.

Feasibility

1. Can a Detention Device be sized to capture the estimated traction sand and the WQV from the tributary area? ☐Yes ☐No
If Yes, then a separate Traction Sand Trap may not be necessary. Coordinate with the District/Regional Design Storm Water Coordinator and also complete Checklist T-1, Part 5.
2. Is the Traction Sand Trap proposed for a site where sand or other traction enhancing substances are applied to the roadway at least twice per year? ☐Yes ☐No
3. Is adequate space provided for Maintenance staff and equipment access for annual cleanout? ☐Yes ☐No

If the answer to any one of Questions 2 or 3 is No, then a Traction Sand Trap is not feasible.
4. Does adequate area exist within the right-of-way to place Traction Sand Traps? ☐Yes ☐No
If Yes, continue to Design Elements section. If No, continue to Question 5.
5. If adequate area does not exist within right-of-way, can suitable, additional right-of-way be acquired to site Traction Sand Traps and how much right-of-way would be needed? _____ acres ☐Yes ☐No
If Yes, continue to the Design Elements section. If No, continue to Question 7.
6. If adequate area cannot be obtained, document in Section 5 of the SWDR that the inability to obtain adequate area prevents the incorporation of this Treatment BMP into the project. ☐Complete



Design Elements

*** Required** Design Element – A “Yes” response to these questions is required to further the consideration of this BMP into the project design. Document a “No” response in Section 5 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

**** Recommended** Design Element – A “Yes” response is preferred for these questions, but not required for incorporation into a project design.

1. Was the local Caltrans Maintenance Station contracted to provide the amount of traction sand used annually at the location? * (Detention Device or CMP type)
List application rate reported. _____ yd³ ☐ Yes ☐ No
2. Does the Traction Sand Trap have enough volume to store settled sand over the winter using the formula presented in Appendix B, Section B.5? * (Detention Device or CMP type) ☐ Yes ☐ No
3. Is the invert of the Traction Sand Trap a minimum of 3 ft above seasonally high groundwater? * (CMP type) ☐ Yes ☐ No
4. Is the maximum depth of the storage within 10 ft of the ground surface, or another depth as required by District Maintenance? * (CMP type) ☐ Yes ☐ No
5. Can peak flow be diverted around the device? ** (CMP type) ☐ Yes ☐ No
6. Can peak flow be diverted around the device? ** (CMP type) ☐ Yes ☐ No
7. Is 6 inches separation provided between the top of the captured traction sand and the outlet from the device, in order to minimize re-suspension of the solids? ** (CMP type) ☐ Yes ☐ No



Treatment BMPs

Checklist T-1, Part 8

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210
 PM : 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

Media Filters

The analysis for the feasibility has been completed under I-210 corridor stormwater management study (PM 25.1 to PM 52.2) on March 2010.

Caltrans has approved two types of Media Filter: Austin Sand Filters and Delaware Filters. Austin Sand filters are typically designed for larger drainage areas, while Delaware Filters are typically designed for smaller drainage areas. The Austin Sand Filter is constructed with an open top and may have a concrete or earthen invert, while the Delaware is always constructed as a vault. See Appendix B, Media Filters, for a further description of Media Filters.

Feasibility – Austin Sand Filter

1. Is the volume of the Austin Sand Filter equal to at least the WQV using a 24 hour drawdown? (Note: the WQV must be $\geq 4,356 \text{ ft}^3$ [0.1 acre-feet]) ☒ Yes ☐ No
2. Is there sufficient hydraulic head to operate the device (minimum 3 ft between the inflow and outflow chambers)? ☒ Yes ☐ No
3. If initial chamber has an earthen bottom, is initial chamber invert ≥ 3 ft above seasonally high groundwater? ☒ Yes ☐ No
4. If a vault is used for either chamber, is the level of the concrete base of the vault above seasonally high groundwater or is a special design provided? ☒ Yes ☐ No
 If No to any question above, then an Austin Sand Filter is not feasible.
5. Does adequate area exist within the right-of-way to place an Austin Sand Filter(s)? ☒ Yes ☐ No
 If Yes, continue to Design Elements sections. If No, continue to Question 6.
6. If adequate area does not exist within right-of-way, can suitable, additional right-of-way be acquired to site the device and how much right-of way would be needed to treat WQV? _____ acres ☐ Yes ☐ No
 If Yes, continue to the Design Elements section.
 If No, continue to Question 7.
7. If adequate area cannot be obtained, document in Section 5 of the SWDR that the inability to obtain adequate area prevents the incorporation of this Treatment BMP into the project. ☐ Complete
 If an Austin Sand Filter meets these feasibility requirements, continue to the Design Elements – Austin Sand Filter below.



Feasibility- Delaware Filter

1. Is the volume of the Delaware Filter equal to at least the WQV using a 40 to 48 hour drawdown? (Note: the WQV must be $\geq 4,356 \text{ ft}^3$ [0.1 acre-feet], consult with District/Regional Design Storm Water Coordinator if a lesser volume is under consideration.) ☐Yes ☐No
2. Is there sufficient hydraulic head to operate the device (minimum 3 ft between the inflow and outflow chambers)? ☐Yes ☐No
3. Would a permanent pool of water be allowed by the local vector control agency? Confirm that check valves and vector proof lid as shown on standard detail sheets will be allowed, is used. ☐Yes ☐No

If No to any question, then a Delaware Filter is not feasible

4. Does adequate area exist within the right-of-way to place a Delaware Filter(s)?
If Yes, continue to Design Elements sections. If No, continue to Question 5. ☐Yes ☐No
5. If adequate area does not exist within right-of-way, can suitable, additional right-of-way be acquired to site the device and how much right-of way would be needed to treat WQV? _____ acres
If Yes, continue to the Design Elements section. If No, continue to Question 6. ☐Yes ☐No
6. If adequate area cannot be obtained, document in Section 5 of the SWDR that the inability to obtain adequate area prevents the incorporation of this Treatment BMP into the project. ☐Complete
7. Does the project discharge to a waterbody that has been placed on the 303-d list or has had a TMDL adopted for bacteria, mercury, sulfides, or low dissolved oxygen? ☐Yes ☐No

If yes, contact the Regional/District NPDES Storm Water Coordinator to determine if standing water in this treatment BMP would be a risk to downstream water quality. If standing water is a potential issue, consider use of another treatment BMP.

If a Delaware Filter is still under consideration, continue to the Design Elements – Delaware Filter section.



Design Elements – Austin Sand Filter

*** Required** Design Element – A “Yes” response to these questions is required to further the consideration of this BMP into the project design. Document a “No” response in Section 5 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

**** Recommended** Design Element – A “Yes” response is preferred for these questions, but not required for incorporation into a project design.

- | | | |
|--|---|-----------------------------|
| 1. Is the drawdown time of the 2 nd chamber 24 hours? * | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Is access for Maintenance vehicles provided to the Austin Sand Filter? * | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Is a bypass/overflow provided for storms > WQV? * | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Is the flow path length to width ratio for the sedimentation chamber of the “full” Austin Sand Filter $\geq 2:1$? ** | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. Can pretreatment be provided to capture sediment and litter in the runoff (such as using vegetation)? ** | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 6. Can the Austin Sand Filter be placed using an earthen configuration? **
If No, go to Question 9. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 7. Is the Austin Sand Filter invert separated from the seasonally high groundwater table by ≥ 10 ft)? *
If No, design with an impermeable liner. | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 8. Are side slopes of the earthen chamber 3:1 (h:v) or flatter? * | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 9. Is maximum depth ≤ 13 ft below ground surface? * | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 10. Can the Austin Sand Filter be placed in an offline configuration? ** | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |



Design Elements – Delaware Filter

*** Required** Design Element – A “Yes” response to these questions is required to further the consideration of this BMP into the project design. Document a “No” response in Section 5 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

**** Recommended** Design Element – A “Yes” response is preferred for these questions, but not required for incorporation into a project design.

- | | | |
|---|------------------------------|-----------------------------|
| 1. Is the drawdown time of the 2 nd chamber between 40 and 48 hours, typically 40-48 hrs? * | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Is access for Maintenance vehicles provided to the Delaware Filter? * | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Is a bypass/overflow provided for storms > WQV? ** | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Can pretreatment be provided to capture sediment and litter in the runoff (such as using vegetation)? ** | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. Is maximum depth ≤ 13 ft below ground surface? * | <input type="checkbox"/> Yes | <input type="checkbox"/> No |



Treatment BMPs

Checklist T-1, Part 9

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210
 PM : 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

MCTT (Multi-chambered Treatment Train)

The analysis for the feasibility has been completed under I-210 corridor stormwater management study (PM 25.1 to PM 52.2) on March 2010.

Feasibility

1. Is the proposed location for the MCTT located to serve a "critical source area" (i.e. vehicle service facility, parking area, paved storage area, or fueling station)? ☐ Yes ☒ No
2. Is the WQV $\geq 4,346 \text{ ft}^3$ [0.1 acre-foot]? ☐ Yes ☒ No
3. Is there sufficient hydraulic head (typically ≥ 6 feet) to operate the device? ☒ Yes ☐ No
4. Would a permanent pool of water be allowed by the local vector control agency? ☒ Yes ☐ No
 Confirm that check valves and vector proof lid as shown on standard detail sheets be allowed.

If No to any question above, then an MCTT is not feasible.

5. Does adequate area exist within the right-of-way to place an MCTT(s)? ☐ Yes ☐ No
 If Yes, continue to Design Elements sections. If No, continue to Question 6.
6. If adequate area does not exist within right-of-way, can suitable, additional right-of-way be acquired to site the device and how much right-of-way would be needed to treat WQV? _____ acres ☐ Yes ☐ No
 If Yes, continue to Design Elements section. If No, continue to Question 7.
7. If adequate area cannot be obtained, document in Section 5 of the SWDR that the inability to obtain adequate area prevents the incorporation of this Treatment BMP into the project. ☐ Complete
8. Does the project discharge to a waterbody that has been placed on the 303-d list or has had a TMDL adopted for bacteria, mercury, sulfides, low dissolved oxygen, or odors? ☐ Yes ☐ No

If yes, contact the Regional/District NPDES Storm Water Coordinator to determine if standing water in this treatment BMP would be a risk to downstream water quality. If standing water is a potential issue, consider use of another treatment BMP.



Design Elements

* **Required** Design Element – A “Yes” response to these questions is required to further the consideration of this BMP into the project design. Document a “No” response in Section 5 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

** **Recommended** Design Element – A “Yes” response is preferred for these questions, but not required for incorporation into a project design.

- | | | |
|---|------------------------------|-----------------------------|
| 1. Is the maximum depth of the 3rd chamber \leq 13 ft below ground surface and has Maintenance accepted this depth? * | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Is the drawdown time in the 3rd chamber between 24 and 48 hours, typically designed for 24-hrs? * | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Is access for Maintenance vehicles provided to all chambers of the MCTT? * | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Is there sufficient hydraulic head to operate the device? * | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. Has a bypass/overflow been provided for storms > WQV? * | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 6. Can pretreatment be provided to capture sediment and litter in the runoff (such as using vegetation)? ** | <input type="checkbox"/> Yes | <input type="checkbox"/> No |



Treatment BMPs Checklist T-1, Part 10

Prepared by: Lee Do Date: June 01, 2011 District-Co-Route: 07-LA-210
PM : 39.8/ 41.9 Project ID (or EA): 0700021033 RWQCB: Los Angeles

Wet Basin

The analysis for the feasibility has been completed under I-210 corridor stormwater management study (PM 25.1 to PM 52.2) on March 2010.

Feasibility

1. Is the volume of the Wet Basin above the permanent pool equal to at least the WQV using a 24 to 96 hour drawdown (40 to 48 hour drawdown preferred)?
(Note: the WQV must be $\geq 4,356 \text{ ft}^3$ [0.1 acre-feet] and the permanent pool must be at least 3x the WQV.) ☐Yes ☒No
2. Is a permanent source of water available in sufficient quantities to maintain the permanent pool for the Wet Basin? ☐Yes ☒No
3. Is proposed site in a location where naturally occurring wetlands do not exist? ☒Yes ☐No

Answer either question 4 or question 5:

4. For Wet Basins with a proposed invert above the seasonally high groundwater, Are NRCS Hydrologic Soil Groups [HSG] C and D at the proposed invert elevation, or can an impermeable liner be used? (Note: If an impermeable liner is used, the seasonally high groundwater elevation must not encroach within 12 inches of the invert.) ☐Yes ☒No
5. For Wet Basins with a proposed invert below the groundwater table: Can written approval from the local Regional Water Quality Control Board be obtained to place the Wet Basin in direct hydraulic connectivity to the groundwater? ☐Yes ☐No
6. Is freeboard provided ≥ 1 foot? ☐Yes ☒No
7. Is the maximum impoundment volume < 14.75 acre-feet? ☐Yes ☒No
8. Would a permanent pool of water be allowed by the local vector control agency? ☒Yes ☐No
If No to any question above, then a Wet Basin is not feasible.
9. Is the maximum basin width ≤ 49 ft as suggested in Section B.10.2? ☐Yes ☐No
If No, consult with the local vector control agency and District Maintenance.



Checklist T-1, Part 10

10. Does adequate area exist within the right-of-way to place a Wet Basin? ☐Yes ☐No
If Yes, continue to Design Elements sections.
If No, continue to Question 11.
11. If adequate area does not exist within right-of-way, can suitable, additional right-of-way be acquired to site the device and how much right-of way would be needed to treat WQV? _____ acres ☐Yes ☐No
If Yes, continue to Design Elements section.
If No, continue to Question 12.
12. Have the appropriate state and federal regulatory agencies been contacted to discuss location and potential to attract and harbor sensitive or endangered species? ☐Yes ☐No
If No, contact the Regional/District NPDES Coordinator
13. If adequate area cannot be obtained, document in Section 5 of the SWDR that the inability to obtain adequate area prevents the incorporation of this Treatment BMP into the project. ☐Complete
14. Does the project discharge to a waterbody that has been placed on the 303-d list or has had a TMDL adopted for bacteria, mercury, sulfides, low dissolved oxygen, or odors? ☐Yes ☐No
If yes, contact the Regional/District NPDES Storm Water Coordinator to determine if standing water in this treatment BMP would be a risk to downstream water quality. If standing water is a potential issue, consider use of another treatment BMP.



Design Elements

* **Required** Design Element – A "Yes" response to these questions is required to further the consideration of this BMP into the project design. Document a "No" response in Section 5 of the SWDR to describe why this Treatment BMP cannot be included into the project design.

** **Recommended** Design Element – A "Yes" response is preferred for these questions, but not required for incorporation into a project design.

- | | | |
|---|------------------------------|-----------------------------|
| 1. Can a controlled outlet and an overflow structure be designed for storm events larger than the Water Quality event? * | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Is access for Maintenance vehicles provided? * | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Is the drawdown time for the WQV between 24 and 96 hours? * | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Has appropriate vegetation been selected for each hydrologic zone? * | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. Can all design elements required by the local vector control agency be incorporated? * | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 6. Has a minimum flow path length-to-width ration of at least 2:1 been provided? ** | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 7. Has an upstream bypass been provided for storms > WQV? ** | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 8. Can pretreatment be provided to capture sediment and litter in the runoff (such as using vegetation, or a forebay)? ** | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 9. Can public access be restricted using a fence if proposed at locations accessible on foot by the public? ** | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 10. Is the maximum depth < 10 ft?" | <input type="checkbox"/> Yes | <input type="checkbox"/> No |



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Sign-In Sheet

PDT meeting- Quality Review (July 27, 2011)

For 07-28720K LA-134 PM 1.6/2.7
& 07-28730K LA-210 PM 39.8/41.0

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